



Liquid Fertilizer Applicator (8524)

Operation, Maintenance, & Parts Manual





TABLE OF CONTENTS

FORWARD 1

SAFETY 7

GENERAL INFORMATION AND OPERATING INSTRUCTIONS..... 19

MAINTENANCE AND REPAIR 53

ILLUSTRATED PARTS LISTS..... 67

WARRANTY 171

ALPHABETICAL INDEX..... 175



FORWARD

This Operation, Maintenance & Parts Manual was written to give the owner / operator instructions on the safe operation and maintenance of the FAST AG Solutions equipment.

READ AND UNDERSTAND THIS OPERATION, MAINTENANCE & PARTS MANUAL BEFORE OPERATING YOUR FAST AG SOLUTIONS EQUIPMENT.

INTRODUCTION 3

 Safety Notice 3

 Purpose 3

 Scope 3

 Terms 3

 Compliances 3

SERIAL NUMBER LOCATION 4

 Equipment Serial Number 4

FEATURES AND ACCESSORIES 5

 Standard Items 5

 Optional Items 5



INTRODUCTION

Thank you for your decision to purchase a liquid fertilizer applicator from FAST AG Solutions. To ensure maximum performance of your equipment, it is mandatory that you thoroughly read and understand the Operation, Maintenance & Parts Manual and follow its recommendations. Proper operation and maintenance are essential to prevent injury or damage and to maximize equipment life.

Continuous improvement and advancement of FAST AG Solutions' products may result in changes to your equipment that may not be reflected in this publication. FAST AG Solutions reserves the right to make product improvements at any time. Although great care has been taken to ensure the accuracy of this publication, FAST AG Solutions does not assume any liability for errors or omissions.

Safety Notice

Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and/or laws, and in compliance with on-product labeling and these instructions.

Make sure that all personnel have read this Operation, Maintenance & Parts Manual and thoroughly understand safe and correct operating and maintenance procedures.

Equipment Purpose

The liquid fertilizer applicator is used to safely provide a means for liquid fertilizer to be properly applied to a field. The FAST AG Solutions Liquid Fertilizer Applicator has a hydraulic powered metering pump to send liquid chemicals or fertilizer to the distribution lines on the toolbar. Coulters open the soil to receive the liquid. Nozzles mounted to the toolbar spray the fluid into the soil.

Scope Of The Document

This document outlines the specific design and performance requirements for the use of a FAST AG Solutions' liquid fertilizer applicator assembly. The word "must" in this document indicates a mandatory requirement. The use of "should" indicates a recommendation of that which is advised but not required.

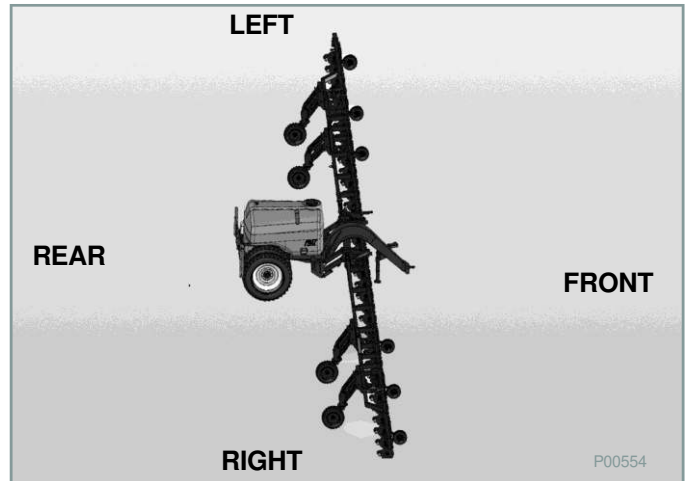
Terms

The terms of this equipment can be found in the warranty section of this manual. (See WARRANTY on Page 173.)

Compliances

This FAST AG Solutions' equipment complies with the general Safety Standards specified by the American Society of Agricultural Engineers (ASAE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the FAST AG Solutions Liquid Fertilizer Applicator must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual.

Figure 1

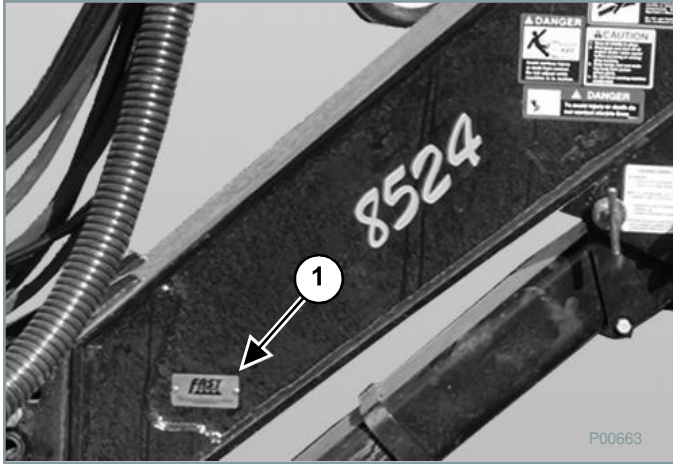


The directions left, right, front and rear, as mentioned throughout this manual, are as viewed from the rear of the equipment [Figure 1].

SERIAL NUMBER LOCATION

Equipment Serial Number

Figure 2



MANUFACTURER'S INFORMATION

FAST AG Solutions
4130 Commerce Boulevard
Windom, MN 56101

1-800-772-9279 Toll Free
1-507-427-3861 Voice
1-507-427-3030 Fax

www.fastsprayers.com

Equipment Name: Liquid Fertilizer Applicator (8524)

Model Number: _____

Serial Number: _____

The model number and serial number (Item 1) **[Figure 2]** is located on the left side of the hitch assembly. Always use the serial number of the equipment when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation.

FEATURES AND ACCESSORIES

Standard Items

The liquid fertilizer applicator assembly is equipped with the following standard items:

- Tall Gauge Wheels
- 380/90R46 Dual Tires
- 2400 Main Gallon Tank
- Heavy Duty Jack
- Hydraulic Down Pressure
- Ace 205F-304 Pump

Optional Items

The liquid fertilizer applicator assembly can be equipped with the following optional items:

- Dual Wheels of other sizes
- Larger Tires
- Tracks* - Camso 15 In. (38.1 cm) TTS Tracks
 - * - For units equipped with track system, see vendor supplied documentation for Parts and Operational info.
- Tall Gauge Wheel (Additional)
- ISO Ready Connection
- Yetter Viper II Coulter
- FAST Coulters
- Tank Agitation
- Pressure
- Bigger Flowmeter
- Hypro Pump
- Pressure Transducer



SAFETY

SAFETY PRECAUTIONS 9

 Safe Operation Is The Operator’s Responsibility..... 9

 Use Safety Rules 9

 Safe Operation Needs A Qualified Operator 10

 Transportation Safety 10

 Maintenance Safety 11

FIRE PREVENTION..... 11

 Maintenance 11

 Electrical..... 11

 Hydraulic System..... 12

 Welding And Grinding 12

 Fire Extinguishers..... 12

SIGN-OFF FORM..... 13

 Sign-Off Form..... 13

SAFETY IDENTIFICATION 14

 Decals 14



SAFETY PRECAUTIONS

Safe Operation Is The Operator's Responsibility

| | |
|---|----------------------------|
|  | Safety Alert Symbol |
| This symbol with a warning statement means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows. | |



Operators must have received instructions before operating this machine. Untrained operators can cause injury or death.

W-2013-001



This notice identifies procedures which must be followed to avoid damage to the machine.

I-2013-001



The signal word DANGER on the equipment and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.

D-2013-001



The signal word WARNING on the equipment and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

W-2013-007

The FAST AG Solutions equipment must be in good operating condition before use.

Use Safety Rules

- Read and follow instructions on the equipment and in the equipment's Operation, Maintenance & Parts Manual before operating.
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.
- Check that the equipment is securely fastened to the tractor (if required).
- Make sure all the equipment controls are in the NEUTRAL position before operating the equipment.
- Operate the equipment according to the Operation, Maintenance & Parts Manual.
- When learning to operate the equipment, do so at a slow rate in an area clear of bystanders.
- DO NOT permit additional personnel to be in the work area when operating the equipment.
- DO NOT modify equipment.
- DO NOT make any adjustments or repairs to the equipment while the engine is running.
- Keep shields and guards in place. Replace if damaged.

SAFETY PRECAUTIONS (CONT'D)

Safe Operation Needs A Qualified Operator

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the equipment.

A Qualified Operator Must Do The Following:

- Understand the Written Instructions, Rules and Regulations.
- Understand the written instructions from FAST AG Solutions in this Operation, Maintenance & Parts Manual and machine signs (decals).
- Lower machine to ground, place all controls in neutral, stop engine, set park brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Install and secure all guards and shields before starting or operating.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Do not allow riders on applicators or tractors during operation or when transporting.
- Clear area of all bystanders, especially children, before starting or filling with chemical or fertilizer.
- Read chemical or fertilizer manufacturers warnings, instructions and procedures **before** using and *follow them exactly*.
- Do not breathe, touch or ingest chemicals or fertilizer. Always wear protective clothing and follow safe handling procedures.
- Keep safe distance from wings when folding or extending wings. Keep others away.
- Clean reflectors, SMV (Slow Moving Vehicle) emblem and lights before transporting.
- Attach securely to towing unit using a hardened pin with a retainer and a safety chain.
- Do not exceed a safe travel speed.
- Use hazard flasher on tractor and applicator when transporting.

- Keep safe distance from overhead power lines when folding or extending wings and during transport.
- Before applying pressure to hydraulic system, make sure all components are tight; make sure hoses and couplings are in good condition.
- Review safety instructions annually.

Transportation Safety

IMPORTANT

Verify main tank is empty before transporting on road.

I-2015-017

- Read and understand ALL information in Operation, Maintenance & Parts Manual regarding procedures and SAFETY when operating applicator in field and/or on road.
- Check with local authorities regarding applicator transport on public roads. Obey all applicable laws and regulations.
- Always travel at a safe speed. Use caution when making corners or meeting traffic.
- Make sure the SMV emblem and all lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
- Daybreak and dusk are particularly dangerous: pilot vehicles are recommended.
- Be sure applicator is properly connected to tractor vehicle and a retainer is used through towbar drawbar pin. Always attach a safety chain between frame and tractor vehicle.
- Keep right and yield right-of-way to allow faster traffic to pass. Drive on road shoulder, if permitted by law.
- Do not exceed 20 mph (32 km/h). Reduce speed on rough roads and surfaces.
- Always use hazard warning flashers on tractors when transporting unless prohibited by law.
- Keep safe distance from overhead power lines during transport. Electrocution can occur without direct contact.

SAFETY PRECAUTIONS (CONT'D)**Maintenance Safety**

- Review Operation, Maintenance & Parts Manual and all safety items before working with, maintaining or operating applicator.
- Before servicing, adjusting, repairing or replacing:
 - Lower machine to ground
 - Place all controls in neutral.
 - Stop engine.
 - Set park brake.
 - Remove ignition key.
 - Wait for all moving parts to stop.
- Follow good shop practices:
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for job at hand.
- Before applying pressure to a hydraulic system make sure all components are tight, hoses and couplings are in good condition.
- Relieve pressure from hydraulic circuit before servicing or disconnecting from tractor.
- Keep hands, feet, clothing and hair away from all moving and/or rotating parts.
- Clear area of bystanders, especially children, when carrying out any maintenance and repairs or making any adjustments or filling.
- Place stands or blocks under frame before working beneath machine or when changing tires.
- Be sure all guards are in place and secured when maintenance work is completed.
- Use only tools, jacks and hoists of sufficient capacity for the equipment weight and size and procedure.

FIRE PREVENTION**Maintenance**

The equipment may have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard.

All fuels, most lubricants and some coolant mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

Electrical

Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

FIRE PREVENTION (CONT'D)

Hydraulic System

- Always place all tractor hydraulic controls in neutral before dismounting.
- Make sure that all components in hydraulic system are kept in good condition and are clean.
- Replace any worn, cut, flattened or crimped hoses.
- Do not attempt any makeshift repairs to hydraulic lines, fittings or hoses by using tape, clamps or cement. The hydraulic system operates under extremely high pressure. Inappropriate repairs will fail suddenly and create a hazardous and unsafe condition.
- Pressurized fluids can penetrate the skin. Hydraulic hoses can fail from age, damage and exposure. Do not search for hydraulic leaks without body and face protection. A tiny, almost invisible leak can penetrate the skin, thereby requiring immediate medical attention. Use wood or cardboard to detect hydraulic leaks, *never* use your hands.
- If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing skin surface.
- Before applying pressure to system, verify all components are tight, and that hoses and couplings are in good condition.

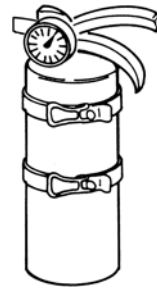
Welding And Grinding

Always clean the equipment, disconnect the battery, and disconnect the wiring before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the equipment when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

Dust generated from repairing nonmetallic parts can be flammable or explosive. Repair such components in a well-ventilated area away from open flames or sparks.

Fire Extinguishers



Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate



SIGN-OFF FORM

FAST AG Solutions follows the general Safety Standards specified by the American Society of Agricultural Engineers (ASAE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the FAST AG Solutions Liquid Fertilizer Applicator must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual.

Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Annually review this information before season start-up.

A sign-off sheet is provided for your record keeping showing that all personnel who will be working with the equipment have read and understand the information in the Operation, Maintenance & Parts Manual and have been instructed in the operation of the equipment.

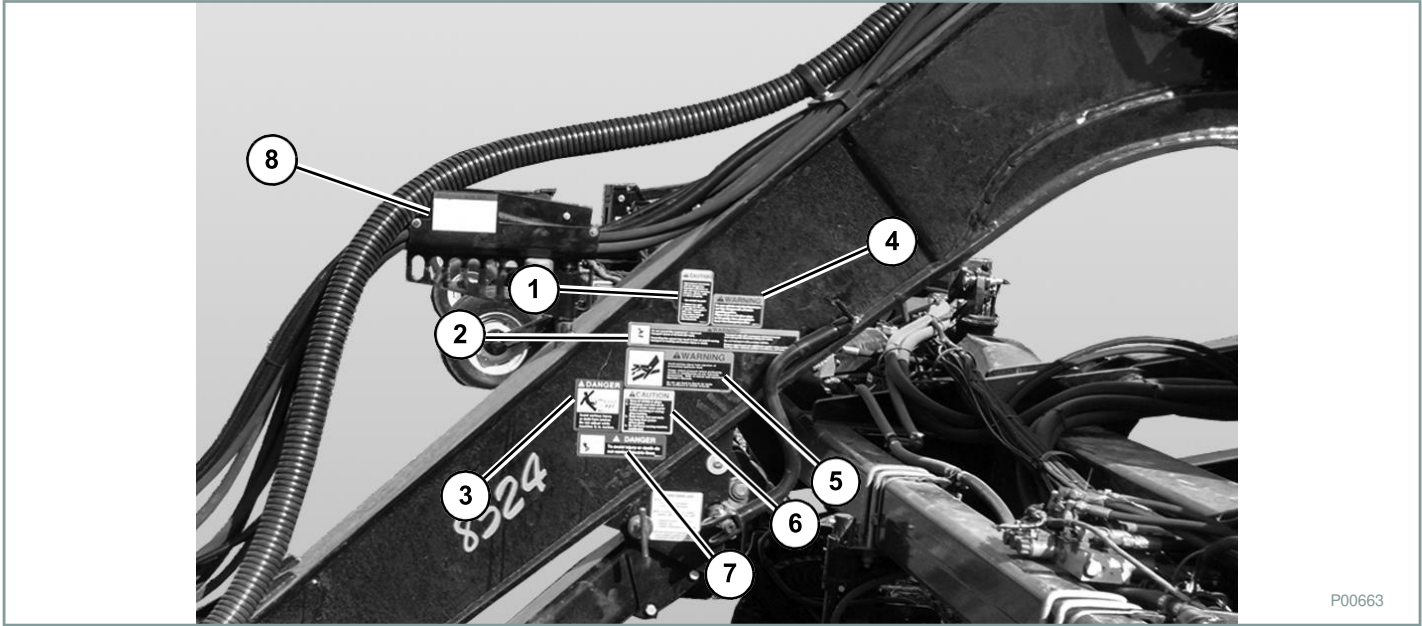
Sign-Off Form

| DATE | EMPLOYEES SIGNATURE | EMPLOYERS SIGNATURE |
|------|---------------------|---------------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

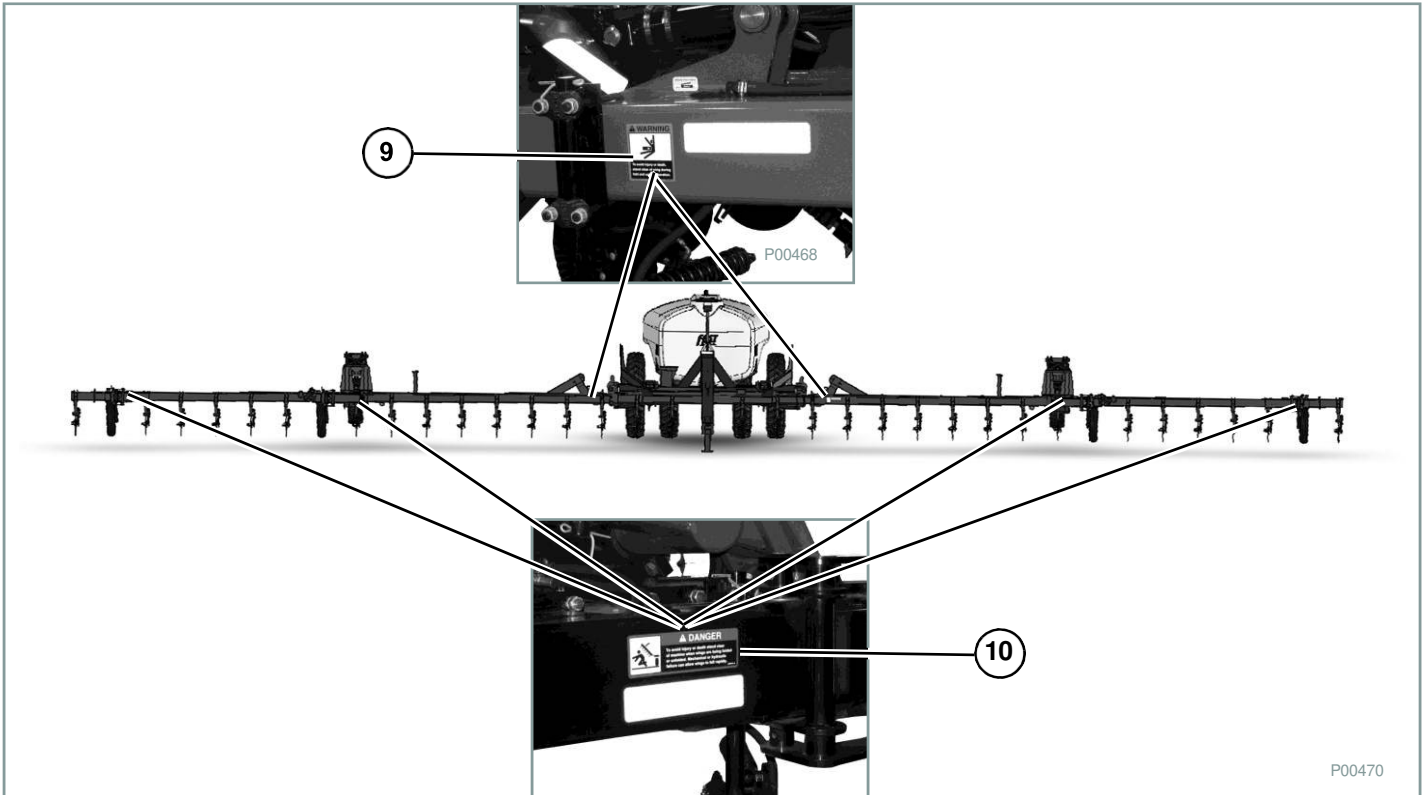
SAFETY IDENTIFICATION

Decals

Hitch Decal Locations
Figure 3

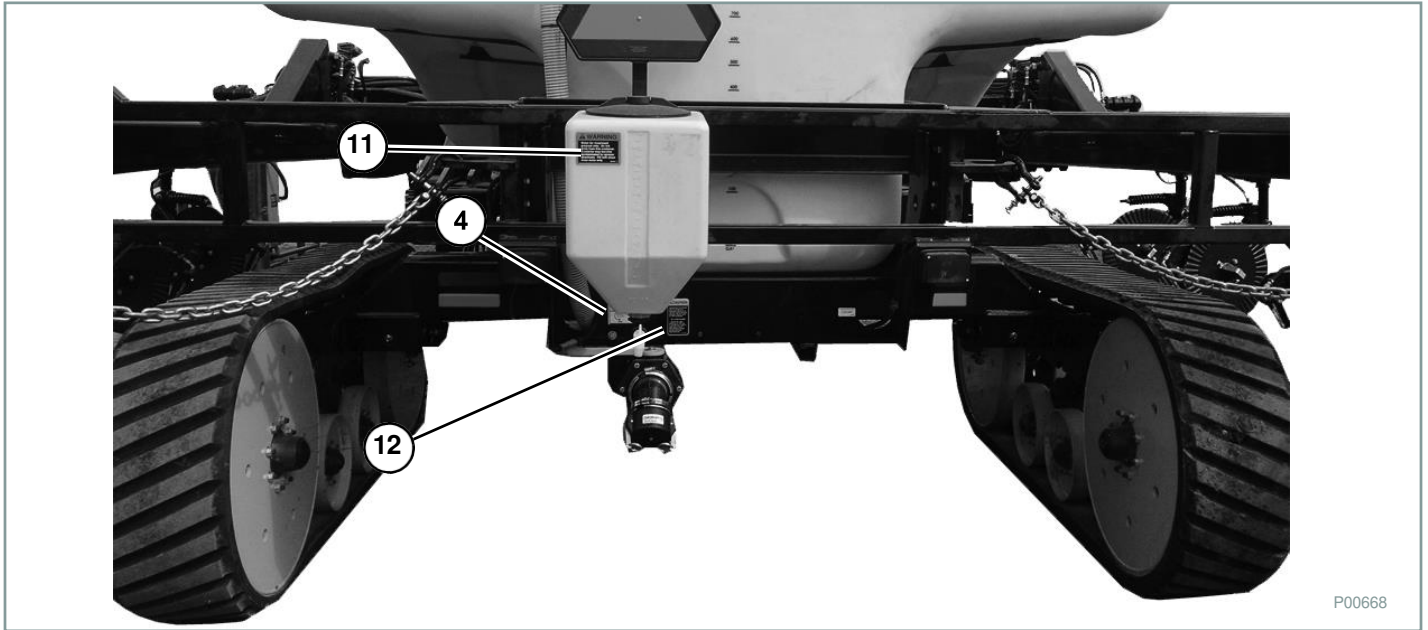


Wing Decal Locations
Figure 4

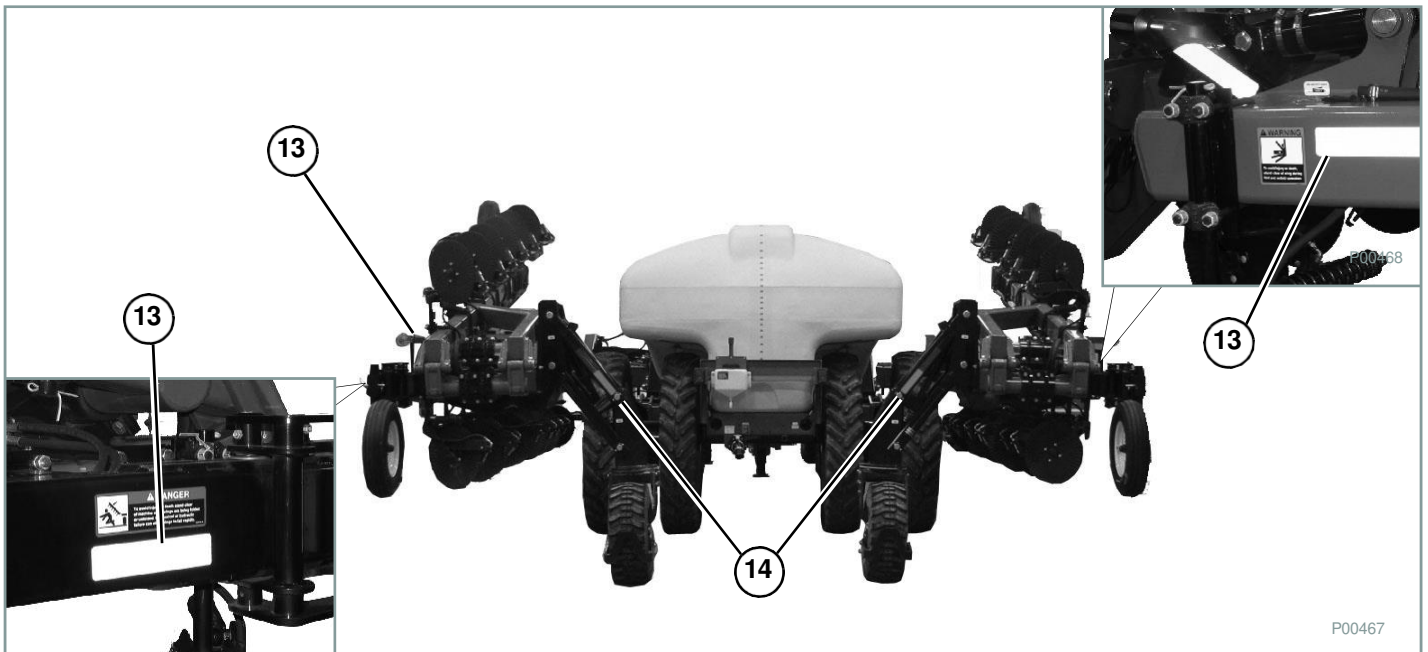


SAFETY IDENTIFICATION (CONT'D)
Decals (Cont'd)

Rear Frame Decal Locations
Figure 5



Reflector Locations
Figure 6



SAFETY IDENTIFICATION (CONT'D)

Decals (Cont'd)

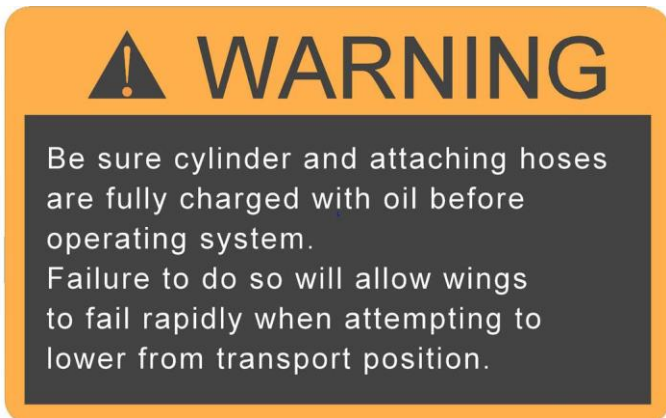
Safety signs are used to alert the equipment operator or maintenance person to hazards and information that may be encountered in the use and maintenance of the equipment. The location and description of the safety signs are detailed in this section. Please become familiar with all safety signs installed on the machine / equipment.

A safety sign may contain more than one hazard panel and more than one avoidance panel.

NOTE: See the numbered (See Decals on Page 14 and 15 for the location of each correspondingly numbered decal.

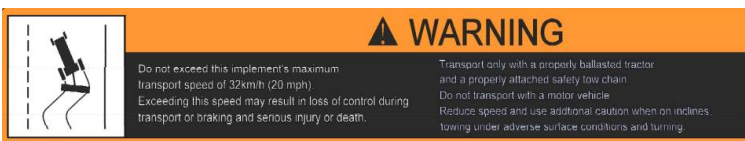
1. Hydraulic Hazard (800100)

This safety sign is located six places on the liquid fertilizer applicator (two places on the hitch and four places on the wings).



2. Travel Hazard (800104)

This safety sign is located in one place on the liquid fertilizer applicator hitch.



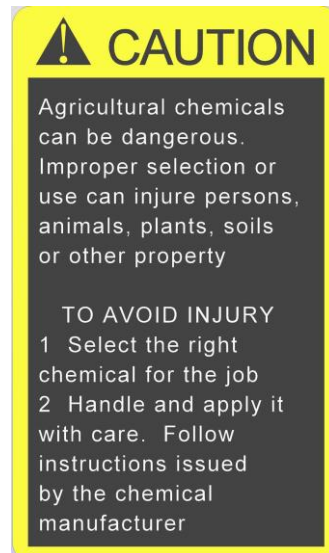
3. Adjustment Hazard (800103)

This safety sign is located in one place on the liquid fertilizer applicator hitch.



4. Chemical Hazard (800101)

This safety sign is located two places on the liquid fertilizer applicator hitch and below freshwater tank.



**SAFETY IDENTIFICATION (CONT'D)
Decals (Cont'd)**

5. Hydraulic Hazard (800098)

This safety sign is located in one place on the liquid fertilizer applicator hitch.



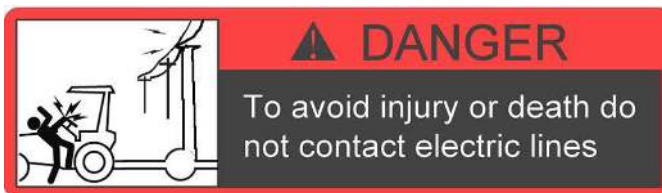
6. Chemical Hazard (800100)

This safety sign is located in one place on the liquid fertilizer applicator hitch.



7. Electrical Hazard (800112)

This safety sign is located in one place on the liquid fertilizer applicator hitch.



8. Hydraulic Hose Identification (800087)

This safety sign is located in one place on the liquid fertilizer applicator hitch.

| HYDRAULIC HOSE KEY | |
|--------------------|--|
| COLOR | DESCRIPTION OF USE |
| Red | Pump Pressure |
| Yellow | Pump Return |
| Grey | Main Lift \ Wing Kick Pressure (Raise) |
| Orange | Main Lift \ Wing Kick Return (Lower) - Run in Constant Flow |
| Purple | Hydraulic Block Pressure |
| Brown | Hydraulic Block Return |

9. Crush Hazard (800105)

This safety sign is located one place on the liquid fertilizer applicator wings.



SAFETY IDENTIFICATION (CONT'D)

Decals (Cont'd)

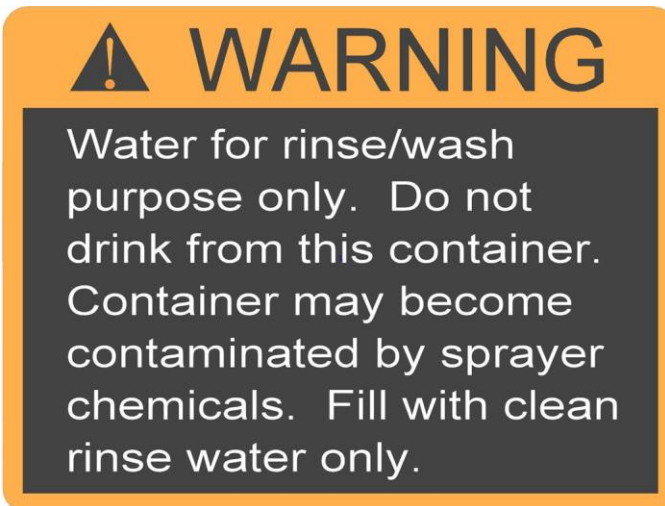
10. Crush Hazard (800106)

This safety sign is located four places on the liquid fertilizer applicator wings.



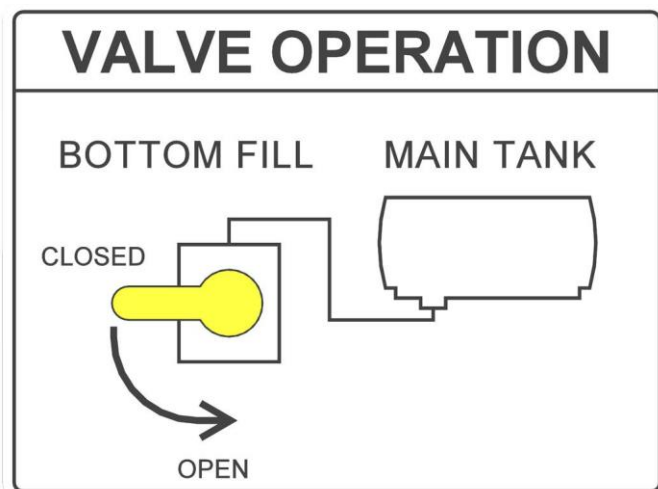
11. Rinse Water Hazard (800108)

This safety sign is located in one place on the liquid fertilizer freshwater tank.



12. Operating (800017)

This safety sign is located in one place on the liquid fertilizer applicator rear frame.



13. Reflector (800110)

This safety sign is located two places on the liquid fertilizer applicator wings.



14. Reflector (800111)

This safety sign is located two places on the liquid fertilizer applicator wings.





GENERAL INFORMATION AND OPERATING INSTRUCTIONS

GENERAL INFORMATION AND OPERATING INSTRUCTION SAFETY PRECAUTIONS . . 21

PURPOSE OF EQUIPMENT 24

GENERAL DESCRIPTION 24

MAJOR COMPONENTS..... 25

EQUIPMENT SPECIFICATIONS..... 26

 Dimensions 26

 Performance 27

PRE-OPERATION SETUP 28

 Initial Operation Checklist..... 28

 Pre-Operation Checklist..... 28

 Tractor Requirements..... 29

 Entering And Exiting Operator’s Position 30

 Connecting The Fertilizer Applicator To The Tractor 30

 Connecting Hydraulic Hoses And Electrical Connections 32

 Controls Description 33

 Leveling The Liquid Fertilizer Applicator..... 34

 Unfold And Fold Toolbar 35

 Tool Bar Raise/Lower Adjustments 39

 Adjust Coulter Depth 41

 System Screen..... 42

FIELD OPERATION 43

POST-OPERATION DISCONNECTION 48

TRANSPORTATION..... 49

STORAGE INSTRUCTIONS 51

 Storage..... 51

 Re-Commissioning 51



GENERAL INFORMATION AND OPERATING INSTRUCTION SAFETY PRECAUTIONS



ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

- Be aware of overhead powerlines.
- Keep away from powerlines when transporting or folding or unfolding wings.
- Electrocution can occur without direct contact.

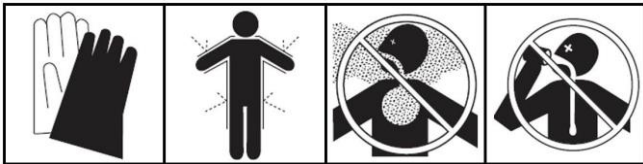
D-2015-004



CRUSH HAZARD

To avoid serious injury or death, keep everyone clear of machine when folding or extending wings.

D-2015-005



CHEMICAL HAZARD

To prevent serious injury or death:

WEAR PERSONAL PROTECTIVE EQUIPMENT

- Do not allow chemical or solution to touch skin.
- Some chemicals can be absorbed through the skin.
- Wear rubber gloves and protective gear at all times.

DON'T BREATHE VAPOR

- Avoid chemical splash and vapor. Keep others away.
- Do not breathe vapor.
- Wear proper respirator when working with chemicals.
- Chemicals can be toxic.

DON'T INGEST CHEMICAL

- If in eyes or mouth, read manufacturer's instructions and follow them exactly.
- Seek immediate medical attention.
- Before working with chemicals, know the poison control phone number for your location.

D-2015-006



CRUSHING HAZARD

- Before moving the tow vehicle / equipment, look in all directions and make sure no bystanders are in the work area.
- Do not allow anyone between the tow vehicle and the equipment when backing up to the equipment for connecting.

W-2014-005



CRUSHING HAZARD

Keep fingers and hands out of pinch points when connecting and disconnecting equipment.

W-2014-002



AVOID INJURY OR DEATH

Use of an unapproved hitch or tow vehicle can result in loss of control, leading to serious injury or death. Tow vehicle and hitch must have the rated capacity to tow this equipment.

W-2014-004

 **WARNING**

Verify that the equipment is securely fastened to the tow vehicle before moving the tow vehicle and equipment.

W-2014-006

 **WARNING**

AVOID INJURY OR DEATH

Pay attention to surrounding areas to prevent being crushed between two pieces of equipment.

W-2013-020

 **WARNING**

AVOID INJURY OR DEATH

Install and secure all guards and shields before starting or operating.

W-2015-019

 **WARNING**

AVOID INJURY OR DEATH

Do not allow riders on the applicator or tractor during operation or transporting.

W-2015-021

 **WARNING**

AVOID INJURY OR DEATH

Clear area of all bystanders, especially children, before starting or filling with chemical or fertilizer.

W-2015-022

 **WARNING**

AVOID INJURY OR DEATH

Do not breathe, touch or ingest chemicals or fertilizer. Always wear protective clothing and follow safe handling procedures.

W-2015-024

GENERAL INFORMATION AND OPERATING INSTRUCTION SAFETY PRECAUTIONS (CONT'D)

 **WARNING**

 **WARNING**

AVOID INJURY OR DEATH

Read chemical or fertilizer manufacturers warnings, instructions and procedures before starting and follow them exactly.

W-2015-023

 **WARNING**

AVOID INJURY OR DEATH

Stay away from wings when folding or extending wings. Keep others away.

W-2015-025

WARNING

AVOID INJURY OR DEATH

Do not exceed a safe travel speed.

W-2015-026

WARNING

AVOID INJURY OR DEATH

Stay away from overhead power lines when folding or extending the wings and during transport.

W-2015-027

WARNING

AVOID SERIOUS INJURY OR DEATH

Do not spill chemicals on skin or clothing. If chemicals are spilled, remove contaminated clothing immediately and wash skin (and clothing) thoroughly with soap and water. Wash hands and face with soap and water and change clothing after spraying.

W-2015-034

WARNING

AVOID SERIOUS INJURY OR DEATH

Always read the label before using chemicals. Follow the instructions from the chemical manufacturer on how to select, use and handle each chemical. Note protection information each time before opening the container.

W-2015-035

WARNING

Clean reflectors, SMV emblem and lights before transporting.

I-2015-014

IMPORTANT

Attach securely to towing unit using a hardened pin with a retainer and a safety chain.

I-2015-015

GENERAL INFORMATION AND OPERATING INSTRUCTION SAFETY PRECAUTIONS (CONT'D)

IMPORTANT

IMPORTANT

Use hazard flasher on tractor when transporting.

I-2015-016

IMPORTANT

Verify main tank is empty before transporting on road.

I-2015-017

PURPOSE OF EQUIPMENT

IMPORTANT

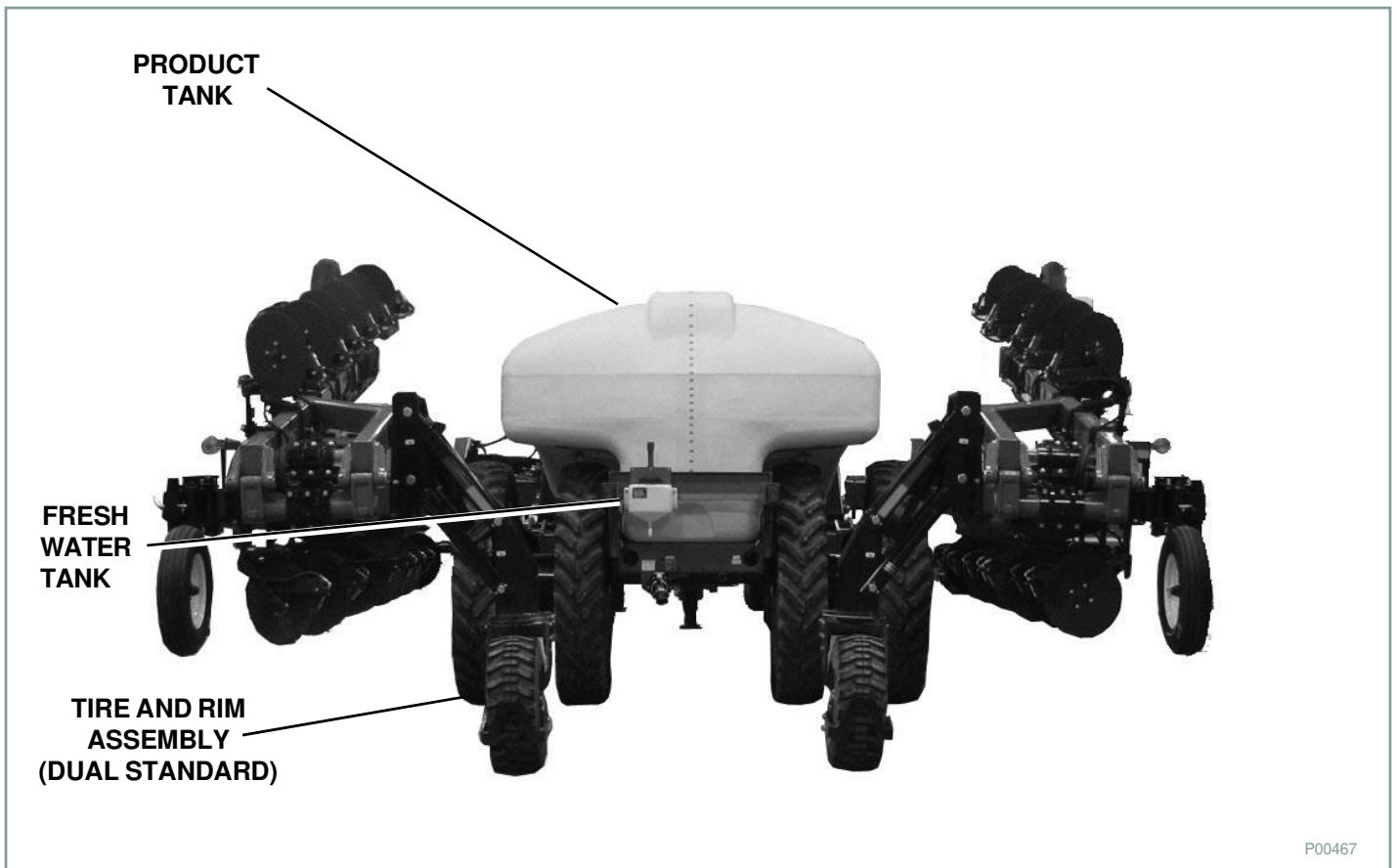
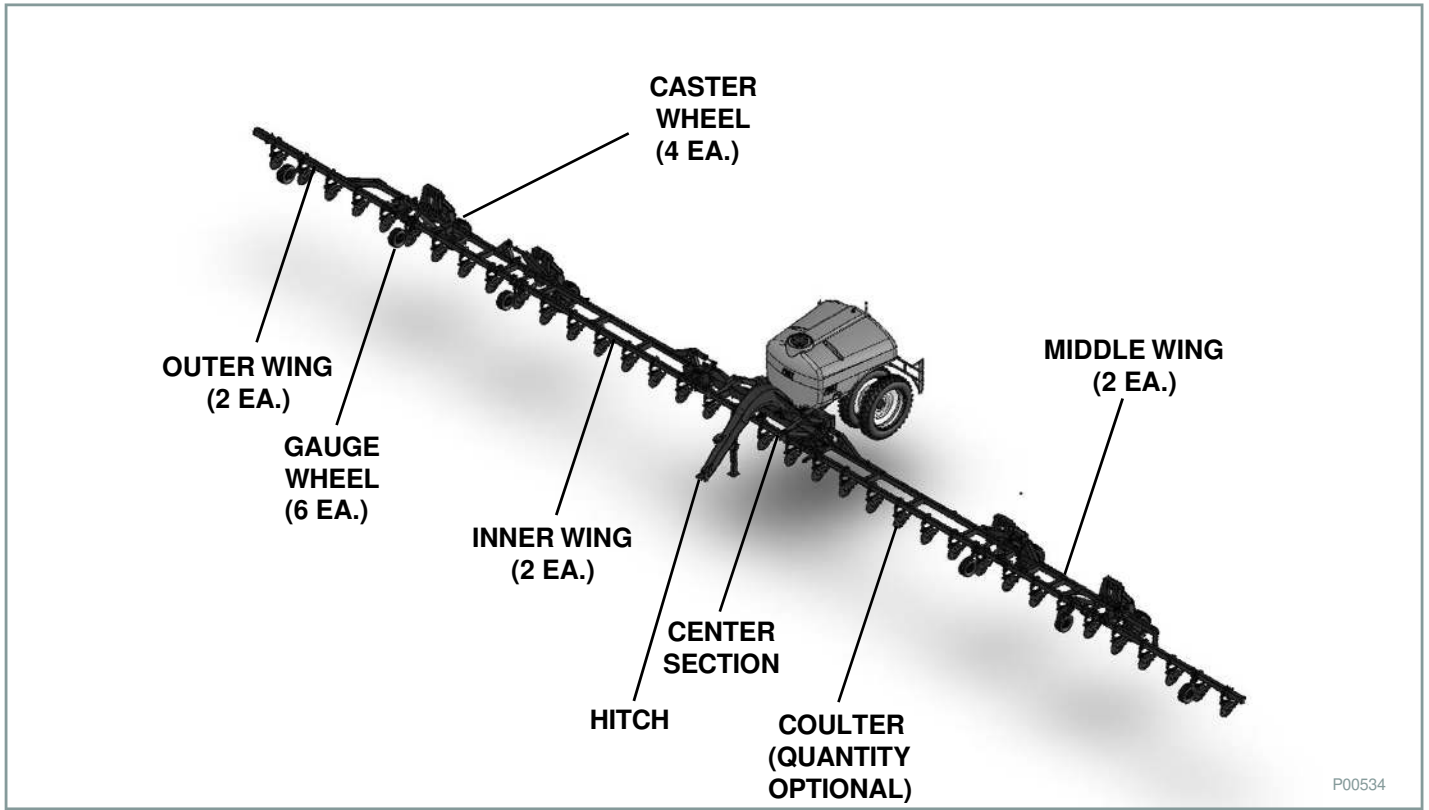
The FAST AG Solutions Liquid Fertilizer Applicator is used to safely provide a means for liquid fertilizer to be properly applied to a field. The FAST AG Solutions Liquid Fertilizer Applicator has a hydraulic powered pump to send liquid chemicals or fertilizer to the control section (Flow Meter and MCV (Motorized Control Valve)). From the control section, products flows through the ball valve to the distribution lines on the toolbar. Coulters open the soil to receive the liquid. Nozzles/Knives mounted to the toolbar spray/inject the fluid into the soil.

GENERAL DESCRIPTION

For more information on:

- Major Components (See Page 25).
- Dimensions (See Page 26).
- Performance (See Page 27).

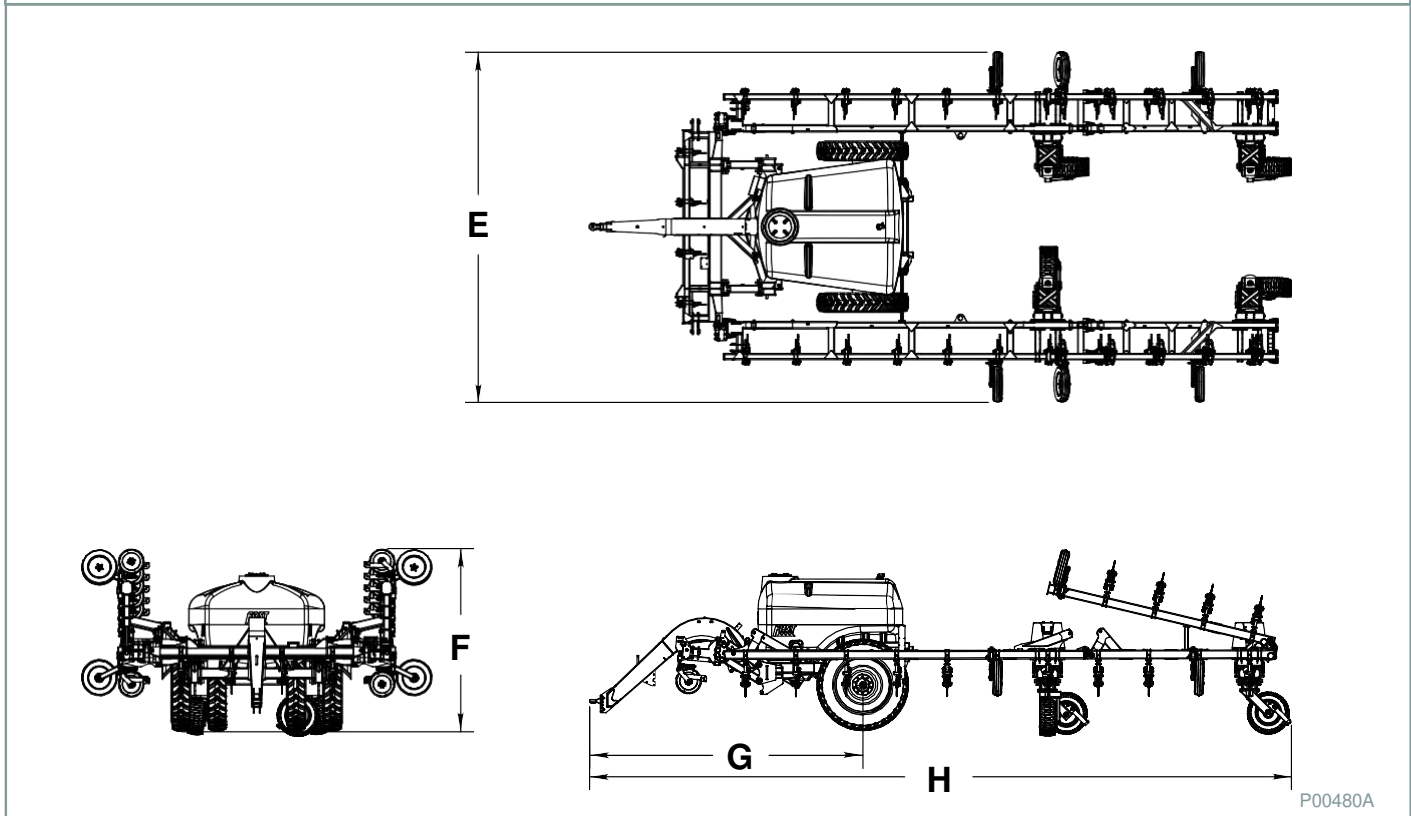
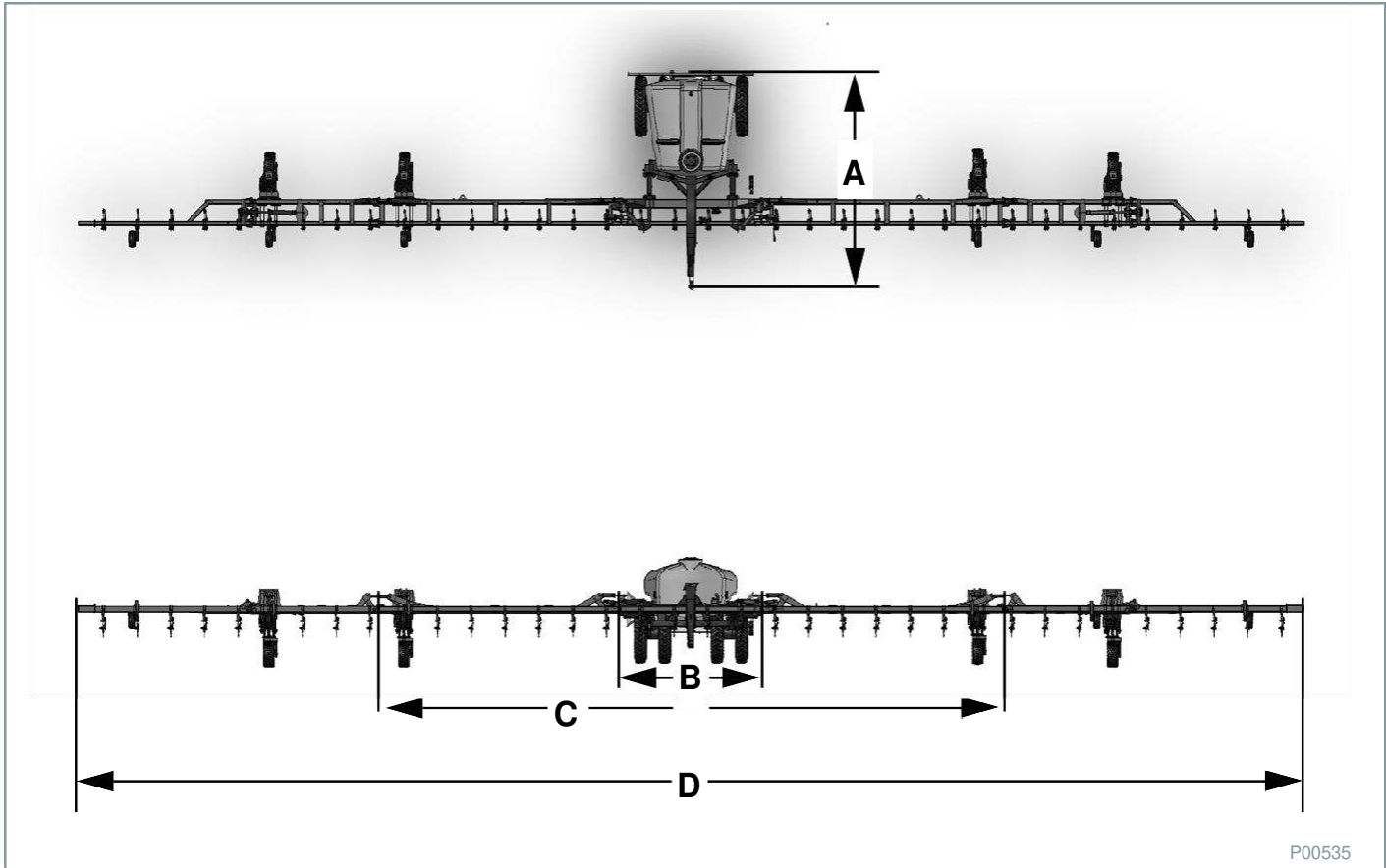
MAJOR COMPONENTS



EQUIPMENT SPECIFICATIONS

Dimensions

- Where applicable, specifications conform to **SAE and ISO** standards and are subject to change without notice.





GENERAL INFORMATION AND OPERATING INSTRUCTIONS

EQUIPMENT SPECIFICATIONS (CONT'D)

Dimensions (Cont'd)

| DESCRIPTION | MODEL 8524 |
|-------------------------------------|----------------------------|
| Length, Unfolded (A) | 21 ft. 0 in. (64 m) |
| Width, Center Section (B) | 13 ft. 10 in. (42.2 m) |
| Width, Inner Wings Unfolded (C) | 86 ft. 8-5/8 in. (26.32 m) |
| Width, Outer Wings Unfolded (D) | 121 ft. 1/2 in. (36.89 m) |
| Width, Wings Folded (E) | 23 ft. 2 in. (5.56 m) |
| Height, Wings Folded (F) | 12 ft. 0 in. (3.79 m) |
| Length, Hitch To Center Of Tire (G) | 17 ft. 9 in. (5.41 m) |
| Length, Wings Folded (H) | 46 ft. 5 in. (13.59 m) |
| Length, Flex Point (I) | 61 ft. 6 in. (18.75 m) |

Performance

| DESCRIPTION | MODEL 8524 |
|--------------------------------|----------------------------------|
| Tractor Horsepower Requirement | 121 ft. 1/2 in. (36.89 m) 320 hp |
| Weight | 27000 lb. (12247 kg) |
| Capacity | 2400 gal (9085 l) |
| Tow Speed (Maximum) | * 20 mph (32 kmh) |
| | ** 10 mph (16 kmh) |
| | *** DO NOT TOW |

* - Weight of fully equipped liquid fertilizer applicator equal to or less than the weight of towing machine.

** - Weight of fully equipped liquid fertilizer applicator is two times or less than the weight of towing machine.

*** - Weight of fully equipped liquid fertilizer applicator more than two times the weight of towing machine.

IMPORTANT

PREVENT EQUIPMENT DAMAGE.

Verify main tank is empty before transporting on road.

I-2015-025

PRE-OPERATION SETUP

Initial Operation Checklist

NOTE: Perform the following steps when using a new applicator.

After First Hour Of Operation

Tighten all wheel lug nuts to 265 ft-lb (359.30 N-m) of torque.

- Tighten all other fasteners and hardware to required torque.
- Tighten caster lug bolts to 90 ft-lb (122 N-m) of torque.
- Check that no chemical or hydraulic lines are being pinched or crimped. Re-route as required.
- Check that all coulters, nozzles and placement components are clean and working properly. Clean as required.
- Check that metering pump is functioning properly. Adjust as required.
- Lubricate all grease fittings. (See PREVENTATIVE MAINTENANCE on Page 55.)

After Five Hours Of Operation

- Tighten all wheel lug nuts to 265 ft-lb (359.30 N-m) of torque.
- Tighten caster lug bolts to 90 ft-lb (122 N-m) of torque.

After 10 hours of operation

- Tighten all wheel lug nuts to 265 ft-lb (359.30 N-m) of torque.
- Tighten caster lug bolts to 90 ft-lb (122 N-m) of torque.
- Tighten all fasteners and hardware to required torque.
- Check chemical and hydraulic line routing.
- Check that all placement components are clean and working properly.

After 50 hours of operation

- Tighten all wheel lug nuts to 265 ft-lb (359.30 N-m) of torque.
- Tighten caster lug bolts to 90 ft-lb (122 N-m) of torque.
- Perform normal servicing and maintenance. (See PREVENTATIVE MAINTENANCE on Page 55.)

Pre-Operation Checklist

NOTE: Efficient and safe operation of the FAST AG Solutions Liquid Fertilizer Applicator requires that each operator reads and understands operating procedures and all related safety precautions outlined in this section. A pre-operational checklist is provided for the operator. It is important for both personal safety and maintaining good mechanical condition of the applicator that this checklist be followed.

Before operating applicator, check the following items:

- Use only a tractor of adequate power and weight to operate applicator. (See Performance on Page 27.)
- Lubricate all grease fittings. (See PREVENTATIVE MAINTENANCE on Page 55.)
- Be sure that machine is properly attached to tractor. Be sure that a mechanical retainer is installed through drawbar pin and safety chain is installed.
- Inspect all hydraulic lines, hoses, fittings and couplers for tightness.
- Check tires and verify they are inflated to specified pressure.
- Calibrate applicator at start of season or a new applicator rate is being used.
- Check condition and routing of all fluid hoses and lines. Be sure that all lines are routed in large arcs. Replace any that are damaged. Re-route those that are rubbing, pinched or crimped.
- Check placement components. Remove and replace any that are worn.
- Remove all entangled material.
- Raise toolbar slightly. Turn on metering pump slightly. Check that there is liquid coming out of each nozzle. Unplug or connect lines as required. Replace any nozzles that are plugged.

PRE-OPERATION SETUP (CONT'D)

Tractor Requirements

NOTE: To ensure the safe and reliable operation of the applicator, it is necessary to use a tractor with appropriate specifications.

Confirm the following requirements are met:

Tractor Horsepower: Refer to "Performance" on page 27.

NOTE: Although recommended tractor horsepower is not required to pull machine, it does provide required strength on drawbar as hitch is very heavy. This will also ensure that the unit has the required stability and control in hilly terrain and during transport.

Front End Weights: It is also recommended that each tractor be equipped with full suitcase weights on front of tractor. This will provide the required weight on front for turning and extra traction if equipped with front wheel assist.

Hydraulic System: Tractor hydraulic system must have a flow of 13 gpm (59 lpm) at 2950 psi (20340 kPa) to operate lift cylinders and drive motor.

NOTE: Either closed-centered or open-centered systems can be used.

NOTE: Contact FAST AG Solutions for optional flow control for use with high flow open-center system.

Remote Outlets: Three remote outlets are required:

- Toolbar lift cylinders and wing kick.
Remote 1 - Set to main flow.
- Inner wing extend/fold cylinders and outer wing extend/ fold cylinders.
Remote 2 - Set to 5 gpm (19 lpm).
- Chemical/fertilizer pump drive motor.
Remote 3 - Set as required.

IMPORTANT

TO PREVENT DAMAGE TO LINKAGES AND CYLINDERS

Always place tractor hydraulic control lever in detent to provide a constant flow of oil to the down pressure system.

If operating in very soft conditions and down pressure is not wanted, place lever in "float" to allow cylinder to extend or retract as necessary by ground conditions.

I-2016-004

NOTE: Always place tractor's hydraulic control lever in detent to provide a constant flow of oil to pump drive motor. (See the tractor's Operation & Maintenance manual.)

PRE-OPERATION SETUP (CONT'D)

Entering And Exiting Operator's Position

IMPORTANT

Follow the instructions in your tractor's operation manual for the correct procedure.

I-2015-018

Entering The Operator's Position

Move to the operator's position, start the engine and release the parking brake.

Leaving The Operator's Position

WARNING

AVOID INJURY OR DEATH

Before you leave the operator's position:

- Always park on a flat level surface.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

W-2015-028

Park the tractor / equipment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position.

Connecting The Fertilizer Applicator To The Tractor

Inspect the tractor's drawbar and fertilizer applicator hitch before connecting. See the tractor's owner's manual.

Enter the operator's position. (See Entering And Exiting Operator's Position on this page.)

Move the tractor into position in front of the fertilizer applicator.

WARNING

AVOID INJURY OR DEATH

Before moving the tractor, look in all directions and make sure no bystanders, especially small children, are in the work area. Do not allow anyone between the tractor and the equipment when backing up to the equipment for connecting.

W-2015-029

Move the tractor backwards, aligning the drawbar with the fertilizer applicator's hitch.

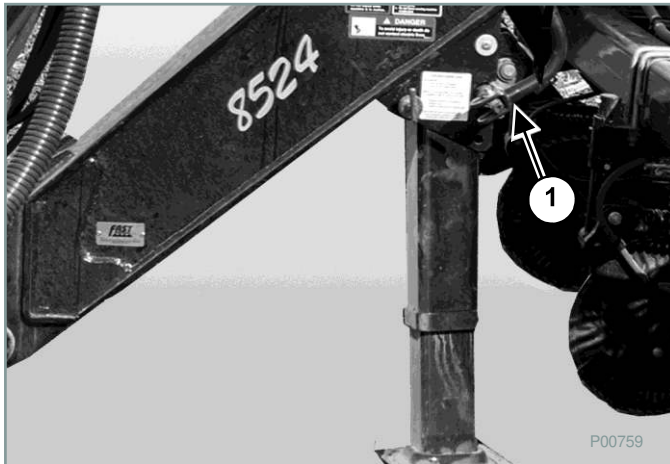
NOTE: The jack may need to be lowered or raised for proper alignment of the drawbar and hitch.

If the fertilizer applicator's hitch needs to be adjusted, stop the tractor when drawbar is just in front of the fertilizer applicator's hitch.

Leave the operator's position. (See Entering And Exiting Operator's Position on this page.)

PRE-OPERATION SETUP (CONT'D) Connecting The Fertilizer Applicator To The Tractor (Cont'd)

Figure 7



Turn the jack handle (Item 1) **[Figure 7]** clockwise to raise the hitch or counterclockwise to lower the hitch.

Lower or raise the fertilizer applicator hitch until aligned with the tractor's drawbar.

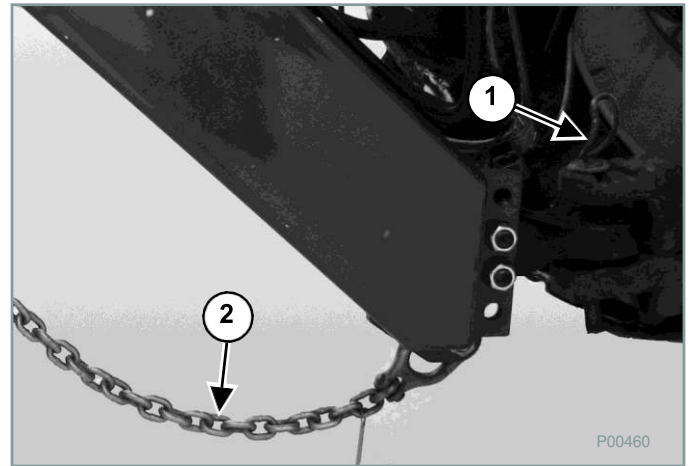
Move to the operator's seat, start the engine and release the parking brake. (See Entering And Exiting Operator's Position on Page 30.)

Move the tractor backwards, aligning the drawbar hitch pin hole with the fertilizer applicator hitch pin hole(s).

Stop the tractor and leave operator's position. (See Entering And Exiting Operator's Position on Page 30.)

NOTE: Always use a hitch pin of adequate size and strength and a retaining pin with a locking device.

Figure 8



Install the hitch pin (Item 1) **[Figure 8]** and retaining pin to securely fasten the fertilizer applicator hitch to the tractor drawbar.

Attach the safety chain (Item 2) **[Figure 8]** around the drawbar.

Turn the jack handle (Item 1) **[Figure 7]** counterclockwise to lower the hitch. Place jack in the stowed position.

 **WARNING**



CRUSHING HAZARD

Keep fingers and hands out of pinch points when connecting and disconnecting equipment.

W-2014-002

PRE-OPERATION SETUP (CONT'D)

Connecting Hydraulic Hoses And Electrical Connections

! WARNING

HIGH PRESSURE FLUID HAZARD

To prevent serious injury or death from high pressure fluid:

- Relieve pressure on system before repairing or adjusting.
- Wear proper hand and eye protection when searching for leaks.
- Use wood or cardboard instead of hands.
- Keep all components in good repair.

W-2015-030

IMPORTANT

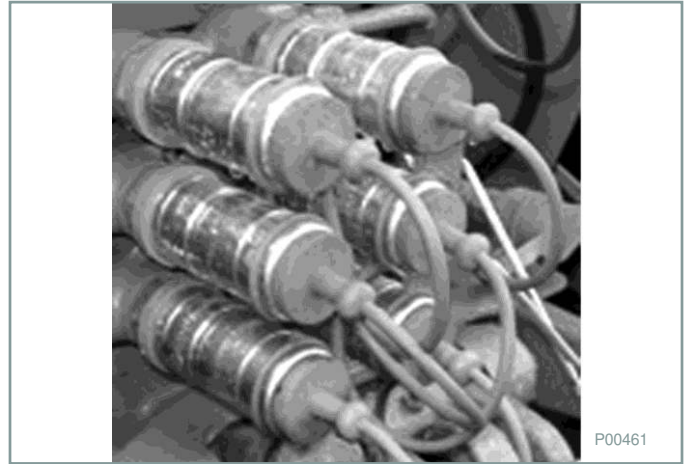
Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

I-2015-009

NOTE: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.

NOTE: Hydraulic hose(s) are marked with colored zip ties. (See chart on this page for usage.)

Figure 9



Push male couplers into female couplers on the tractor until they are fully engaged and locked [Figure 9]. Use the chart below for hydraulic hose placement. (See the tractor's Operation And Maintenance manual.)

| COLOR | HOSE DESCRIPTION | REMOTE |
|--------|--------------------------------------|--------|
| Red | Pump Pressure | 3 |
| Yellow | Pump Return | 3 |
| Gray* | Main Lift/Wing Kick Pressure (Raise) | 1 |
| Orange | Main Lift/Wing Kick Return (Lower) | 1 |
| Purple | Hydraulic Block Pressure | 2 |
| Brown | Hydraulic Block Return | 2 |

* - Run in constant flow.

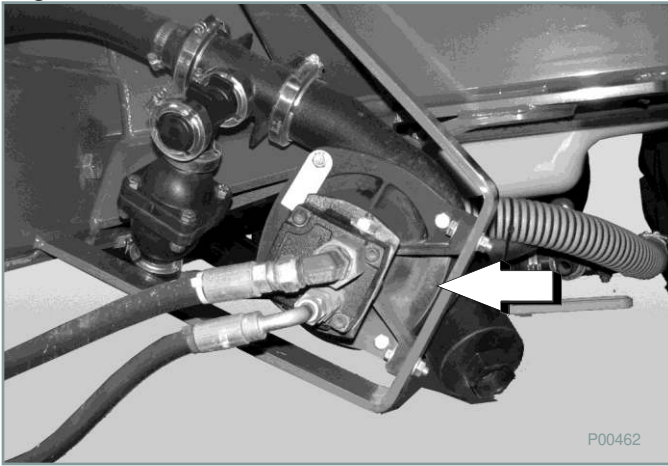
Route electrical lines over hitch and connect to tractor's electrical connectors.

NOTE: Be sure to provide slack for turning.

PRE-OPERATION SETUP (CONT'D)

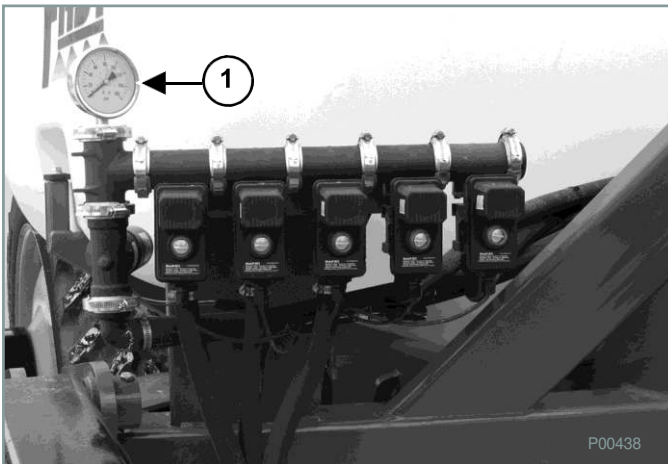
Controls Description

Figure 10



Metering Pump: Is located on the left side in front of the main tire [Figure 10]. (See the metering valve Operator's Manual for operation.)

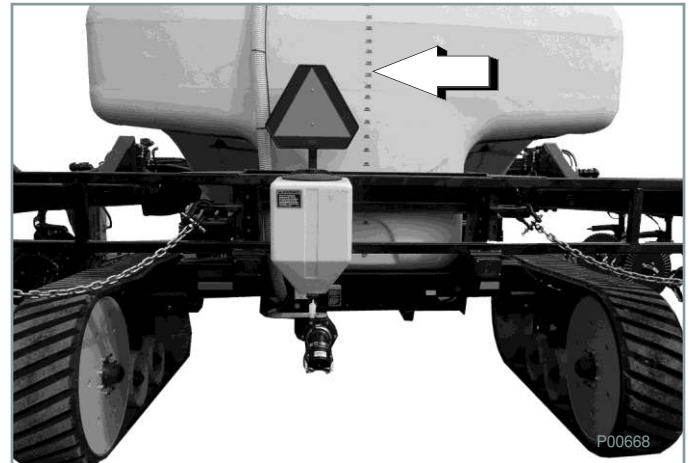
Figure 11



Liquid System Pressure Gauge: Located in front of the main tank on the right side (Item 1) [Figure 11]. The gauge monitors pressure in liquid circuit providing flow to injectors. It is normally used to monitor pressure in chemical/fertilizer circuits when setting system for a specific application rate.

NOTE: Monitor gauge during operation. Stop and check system if pressure changes suddenly.

Figure 12



Tank Scale: The back end of tank has a capacity scale [Figure 12] molded into it to assist operator when filling tank.

Automatic Controller (Optional): Monitors, sets and controls the operation of the applicator. (See the automatic controller's Operator's Manual for operation.)

Leveling The Liquid Fertilizer Applicator

IMPORTANT

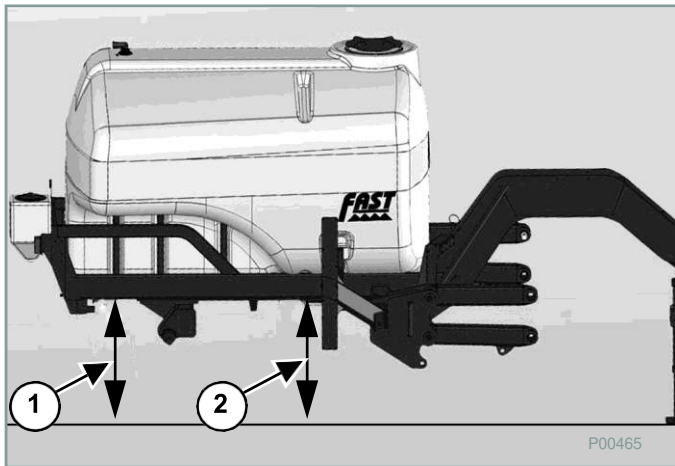
The fertilizer applicator frame must be adjusted down or up until the fertilizer applicator is parallel with the ground prior to operation.

I-2015-019

Lower the toolbar. (See Unfold And Fold Toolbar on Page 35.)

NOTE: The wings and toolbar should be in the operating position before leveling the fertilizer applicator frame.

Figure 13

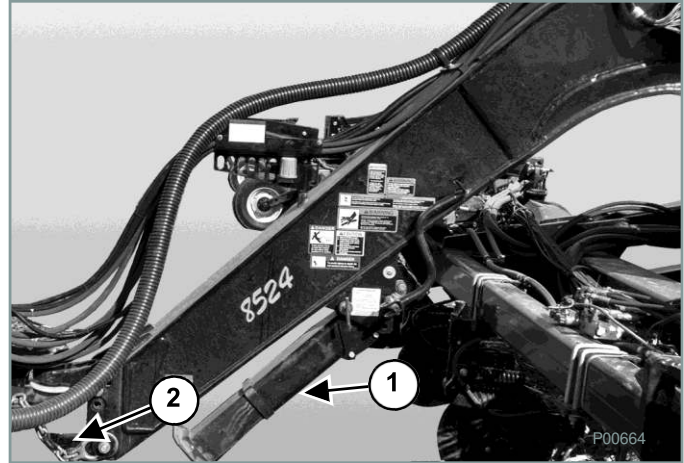


NOTE: Frame and tank [Figure 13] only shown for ease to show measurement locations.

Measure the distance (Items 1 & 2) [Figure 13] from the ground to the bottom of the fertilizer applicator frame in the two locations shown.

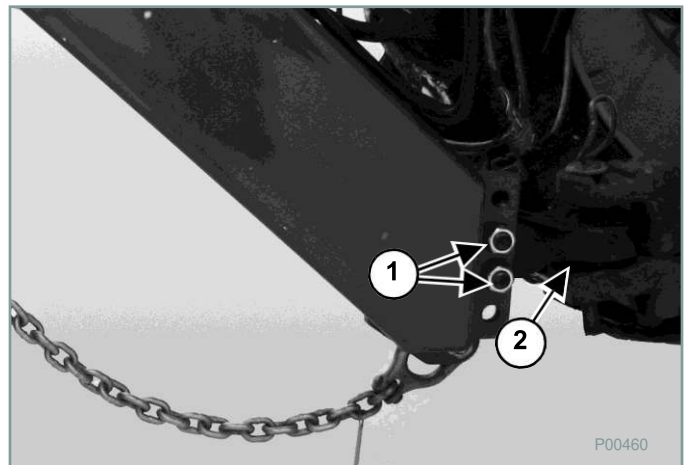
NOTE: The two measurements should be approximately the same when the frame is level.

Figure 14



With the liquid fertilizer applicator attached to the tractor, lower the jack from the transport position. Raise the jack (Item 1) until the weight of the fertilizer applicator is on the jack. This will allow the clevis mounting bolts (Item 2) [Figure 14] to be loosened and moved for leveling (if required).

Figure 15



Loosen the clevis mounting bolts (Item 1) [Figure 15].

Raise or lower the jack until the fertilizer applicator frame is parallel with the ground. Raise or lower the clevis (Item 2) [Figure 15] to match tractor drawbar and align the closest clevis mounting holes with frame. Install the clevis bolts.

Tighten the clevis mounting bolts (Item 1) [Figure 15] to the correct torque and raise the jack into the storage position.

PRE-OPERATION SETUP (CONT'D)

Unfold And Fold Toolbar

 **DANGER**

ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

- Be aware of overhead powerlines.
- Keep away from powerlines when transporting or folding or unfolding wings.
- Electrocution can occur without direct contact.

D-2015-004

 **DANGER**

CRUSH HAZARD

To avoid serious injury or death, keep everyone clear of machine when folding or extending wings.

D-2015-005

 **DANGER**

AVOID INJURY OR DEATH

Before moving the tractor, look in all directions and make sure no bystanders, especially small children are in the work area. Do not allow anyone between the tractor and the equipment when backing up to the equipment for connecting.

W-2015-029

 **WARNING**

IMPORTANT

Always have the tractor / fertilizer applicator moving forward at a minimum of 3 mph (5 kmh) when lowering the toolbar to minimize the side load on the coulters when they contact the ground.

I-2015-020

IMPORTANT

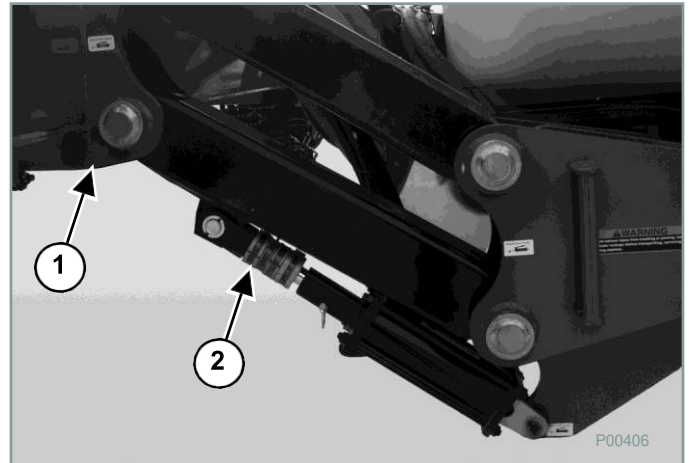
PREVENT WING REST DAMAGE

Never engage tractor remote lever to lower center section while main wings are in transport position.

I-2015-021

Move to the operator's position and start the engine. (See Entering And Exiting Operator's Position on Page 30.)

Figure 16



Move tractor's remote 1 lever to pressurize grey labeled hose to raise center section and wings (Item 1) up off cylinder stops (Item 2) [Figure 16]. (See the tractor's Operation & Maintenance manual.)

Move tractor's remote 2 lever to pressurize purple labeled hose to detent position. (See the tractor's Operation & Maintenance manual.)

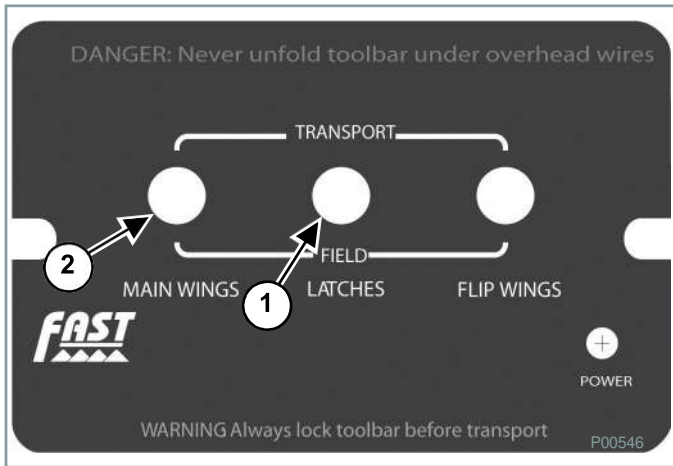
NOTE: Detent position allows continuous oil flow to electronic fold box functions.

PRE-OPERATION SETUP (CONT'D)

Unfold And Fold Toolbar (Cont'd)

Unfold Toolbar (Cont'd)

Figure 17

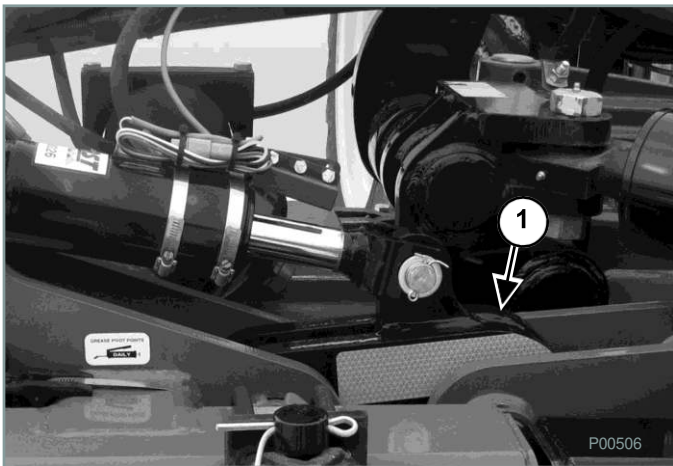


Move latches switch (Item 1) [Figure 17] to transport position for a few seconds to be certain wing latches are fully raised. Verify latches are fully raised.

Move main wing switch (Item 2) [Figure 17] to field position and hold until wings are unfolded. Wings will be laterally in line with center section when fully unfolded.

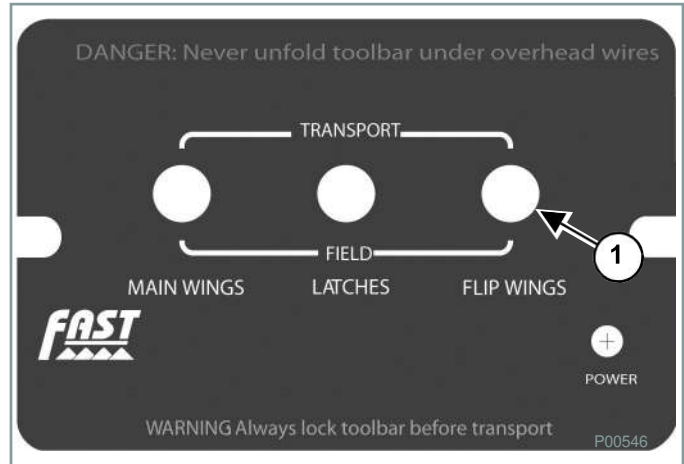
NOTE: In soft field conditions, it may be required to back up to get wings to fully extend.

Figure 18



Move latches switch (Item 1) [Figure 17] to field position and hold to fully engage wing latches (Item 1) [Figure 18].

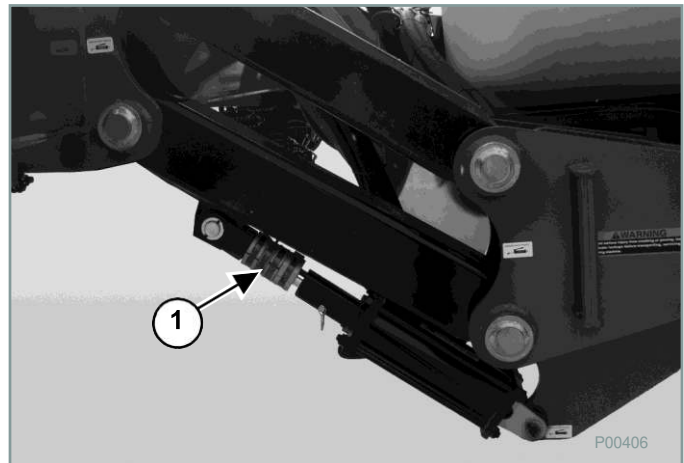
Figure 19



Move flip wing switch (Item 1) [Figure 19] to field position and hold to unfold flip wings.

NOTE: The toolbar should be completely unfolded with wing tips angled up in the kicked position.

Figure 20

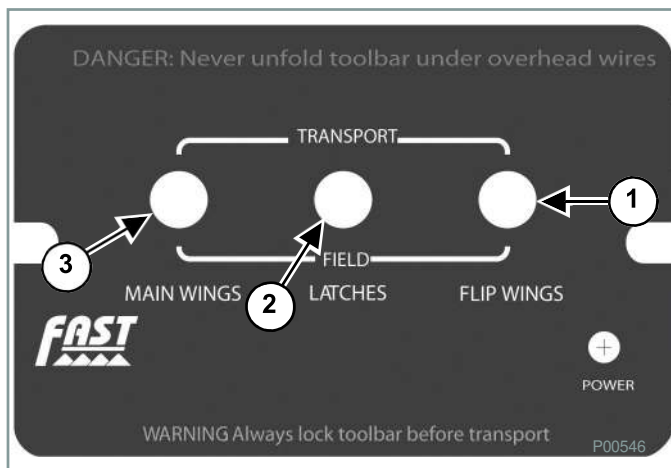


Install spacers (Item 1) [Figure 20] on toolbar lift cylinder ram to set required machine depth. Toolbar can then be fully lowered and will always return to same depth.

PRE-OPERATION SETUP (CONT'D)**Unfold And Fold Toolbar (Cont'd)***Fold Toolbar*

Move tractor remote #1 lever, to pressurize grey-labeled hose to raise toolbar and kick wings up. (See the tractor's Operation & Maintenance manual.)

Move tractor remote #2 lever, to pressurize purple-labeled hose to supply oil for cab box folding functions. (See the tractor's Operation & Maintenance manual.)

Figure 21

Hold flip wings toggle switch (Item 1) **[Figure 21]** to transport position until flip wings are fully folded.

Move and hold latches switch (Item 2) **[Figure 21]** to transport position to raise latches.

Move and hold main wing toggle switch (Item 3) **[Figure 21]** to transport position until main wing bumps into wing rest vertical back stop.

Disengage tractor remote #2 lever (purple-labeled hose) and install main lift transport segment on both main lift cylinders. Repeat at caster wheel cylinder (two places) (See the tractor's Operation & Maintenance manual.)

PRE-OPERATION SETUP (CONT'D)

Unfold And Fold Toolbar (Cont'd)

Raising And Lowering Toolbar

IMPORTANT

EXCESS PRESSURE COULD CAUSE DAMAGE TO TOOLBAR AND COULTERS.

- Use only as much down pressure as needed to get coulters to proper depth.
- Do not exceed 1500 psi (10342 kPa).

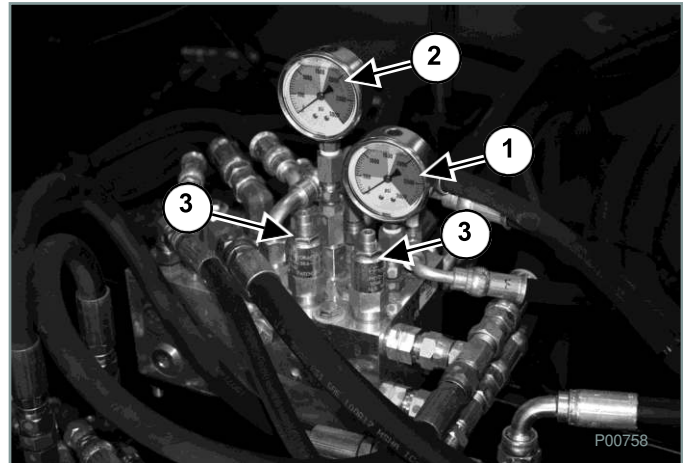
I-2015-022

IMPORTANT

Always have the tractor / fertilizer applicator moving forward at a minimum of 3 mph (5 kmh) when lowering the toolbar to minimize the side load on the coulters when they contact the ground.

I-2015-020

IMPORTANT



Check amount of down pressure applied to main wings by engaging remote #1 pressurize orange tagged hose continuously and lowering coulters into the ground while slowly (minimum 3 mph (5 kph)) moving ahead with unit. Hydraulic down pressure gauge (Item 1) and (Item 2) should read between 700 and 1500 psi (4826 and 10342 kPa). Down pressure may be adjusted by turning socket head screw (Item 3) [Figure 22] on down pressure valve located on toolbar near wing fold manifold. (See the tractor's Operation & Maintenance Manual.)

NOTE: Suggested starting pressures are:
PG1 (Item1) [Figure 22] 1200 psi (8274 kpa)
PG2 (Item 2) [Figure 22] 250 psi (1724 kpa)

If down pressure needs to be adjusted, turn socket head screw clockwise to increase pressure and turn counterclockwise to decrease down pressure. To change pressure, loosen jam nut, turn adjustment stem 1/4 turn at a time. Reverse the tractor remote #1 to fully raise toolbar and kick wings up. Toolbar is now ready for field application.

PRE-OPERATION SETUP (CONT'D)

Tool Bar Raise/Lower Adjustments

IMPORTANT

Always have the tractor / fertilizer applicator moving forward at a minimum of 3 mph (5 kmh) when lowering the toolbar to minimize the side load on the coulters when they contact the ground.

I-2015-020

NOTE: It is recommended that the coulters are set so the injectors or knives place the fertilizer 2 - 3 in. (5 - 7.5 cm) below the soil surface. Check fertilizer/chemical manufacturer for their recommended depth.

Enter the operator's position, start the engine and release the parking brake. (See Entering And Exiting Operator's Position on Page 30.)

Move the tractor and fertilizer applicator to a level area in the field.

Engage the tractor hydraulics. (See the tractor's Operation & Maintenance manual.)

Unfold and fully extend the toolbar. (See Unfold Toolbar on Page 35.)

IMPORTANT

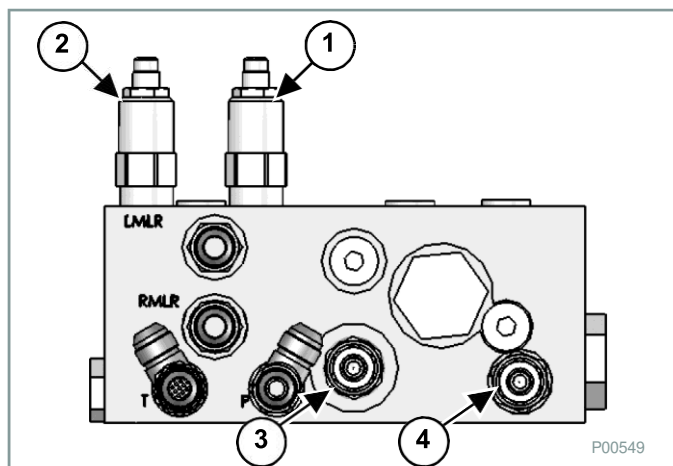
Failure to keep tractor remote #1 gray tagged hose engaged and supply a constant oil flow to down pressure system will result in coulter riding out of the ground and could result in structural failure of the toolbar and/or hydraulic cylinder components.

I-2015-023

Lower center section and main wing kick by engaging the tractor remote #1.

NOTE: Tractor remote #1 gray tagged hose must be constantly engaged providing oil supply to and from down pressure circuit.

Figure 22



Lift assist block [Figure 22] adjustments:

- PG1 (Item 1) sets down pressure for mid and flip wing.
- PG2 (Item 2) sets down pressure for main trail wing.
- (Item 3) Sets center section raise rate.
- (Item 4) Sets flip wing drop rate.

NOTE: Normal operating range for down pressure (Item 1 & 2) [Figure 22] is 700 - 1500 psi (4826 - 10342 kpa). Use the lowest pressure possible to keep coulters in the ground.

NOTE: Suggested start point is:
1200 psi (8274 kpa) on #1 circuit PG1 (Item 1)
250 psi (1724 kpa) on #2 circuit PG2 (Item 2)

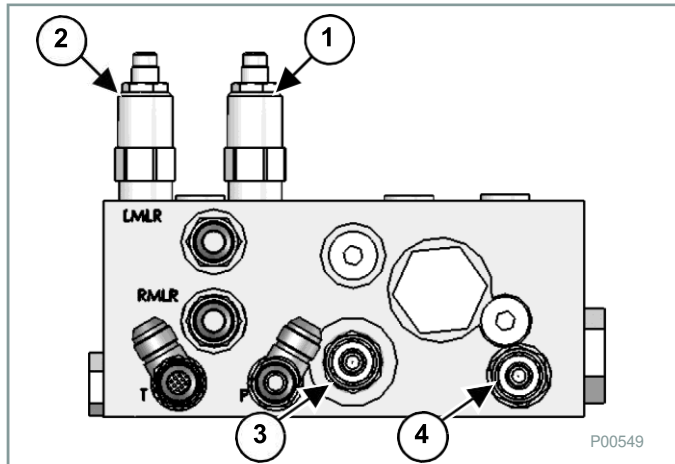
NOTE: Correct setting has the caster wheels fully extended before center section is completely up.

Gradually turn up hydraulic flow to this circuit to confirm flow is adequate and not the problem. (Typically this circuit is full flow.)

PRE-OPERATION SETUP (CONT'D)

Tool Bar Raise/Lower Adjustments (Cont'd)

Figure 23



Lift assist block [Figure 23] adjustments:

- (Item 3) Sets center section raise rate.

NOTE: When raising the center section and the wings, the wings need to get up to the fully up position before the center section gets fully raised. Turning the screw in speeds up the center section lift when the center section gets fully raised, the oil flow to the caster raise is cutoff.

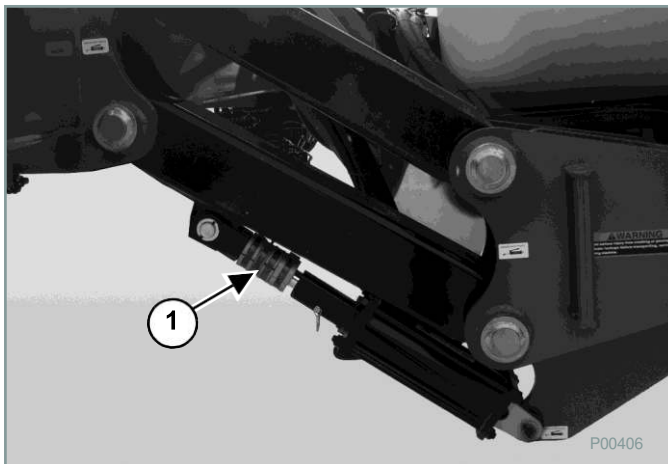
NOTE: When the center section gets fully raised, the oil flow to the caster raise is cutoff.

- (Item 4) Sets flip wing drop rate.

NOTE: To slow the drop rate, turn the adjustment screw clockwise. To make the drop rate for faster, turn the adjustment screw counterclockwise. Adjust 1/8 turn at a time.

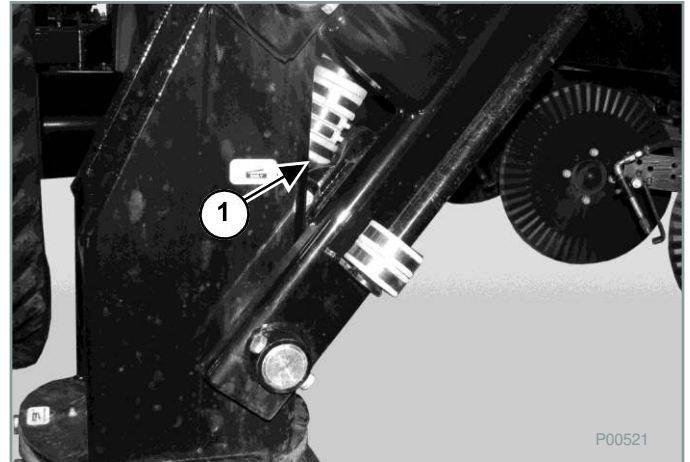
PRE-OPERATION SETUP (CONT'D)**Adjust Coulters Depth****Figure 24**

NOTE: It is recommended to adjust coulters no deeper than the top of the coulters ripples (Item 1) [Figure 24] 3 in. (76 mm).

Figure 25

When desired depth is reached, install spacers (Item 1) [Figure 25] on toolbar lift cylinder ram.

NOTE: Toolbar can then be fully lowered and always return to same depth.

Figure 26

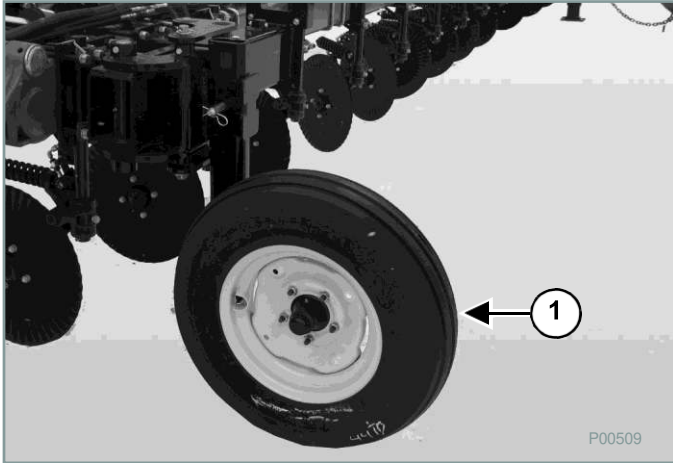
Install spacers on casters (Item 1) [Figure 26] to give required machine depth.

NOTE: The caster wheels are not designed to be the only coulters depth control.

PRE-OPERATION SETUP (CONT'D)

Tool Bar Raise/Lower Adjustments (Cont'd)

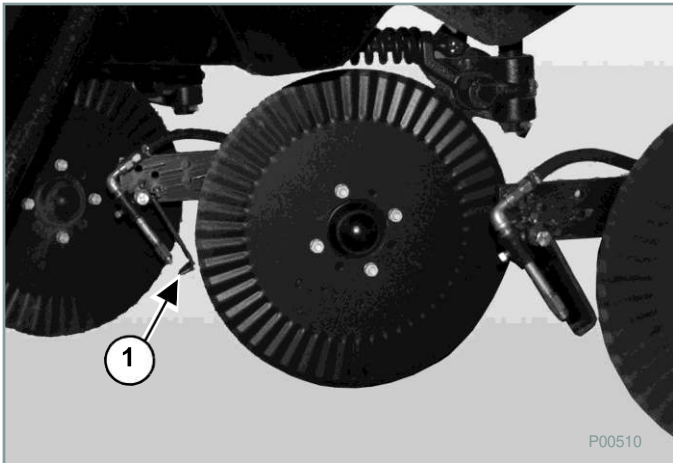
Figure 27



Gauge wheel (Item 1) [Figure 27] helps to maintain application depth in adverse ground conditions.

- Lower gauge wheels if soil conditions are soft.
- Raise gauge wheels if soil conditions are hard to obtain the same application depth.
- Set gauge wheels so wings are level front to back.

Figure 28



Nozzles/Knives (Item 1) [Figure 28] need to be adjusted to the correct height. (See the nozzle/knife manufacturer's instructions.)

NOTE: As a general guideline, tip of nozzle should be slightly above ground as unit moves over the field.

System Screen

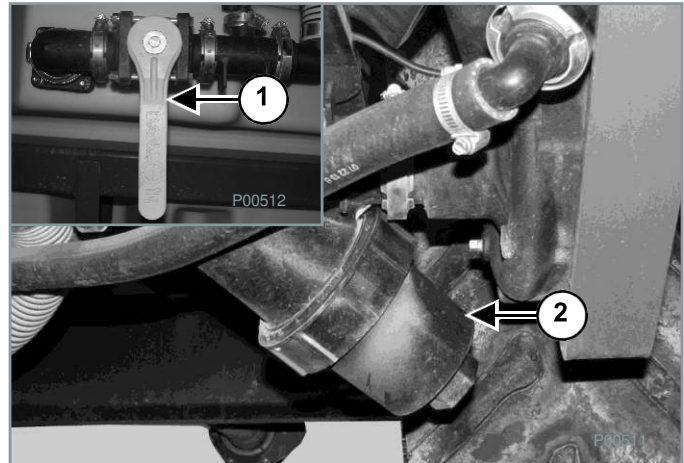
WARNING

AVOID SERIOUS INJURY OR DEATH

- Check chemical or fertilizer MSDS for proper handling instructions.
- Toxic chemicals can enter the body by breathing, spray or contact with bare skin. Do not take a chance with your health and safety.

W-2015-032

Figure 29



Close valve (Item 1), remove filter bowl and screen (Item 2) [Figure 30] and wash with clean water *DAILY*. Clean liquid is required to prevent nozzle plugging.

NOTE: Collect and dispose of any liquid in a approved container.

FIELD OPERATION

WARNING



CRUSHING HAZARD

- Before moving the tow vehicle / equipment, look in all directions and make sure no bystanders are in the work area.
- Do not allow anyone between the tow vehicle and the equipment when backing up to the equipment for connecting.

W-2014-005

WARNING

Verify that the equipment is securely fastened to the tow vehicle before moving the tow vehicle and equipment.

W-2014-006

WARNING

AVOID INJURY OR DEATH

Pay attention to surrounding areas to prevent being crushed between two pieces of equipment.

W-2013-020

WARNING



CRUSHING HAZARD

Keep fingers and hands out of pinch points when connecting and disconnecting equipment.

W-2014-002

WARNING

AVOID INJURY OR DEATH

Install and secure all guards and shields before starting or operating.

W-2015-019

WARNING

AVOID INJURY OR DEATH

Use of an unapproved hitch or tow vehicle can result in loss of control, leading to serious injury or death. Tow vehicle and hitch must have the rated capacity to tow this equipment.

W-2014-004

WARNING

AVOID INJURY OR DEATH

Do not allow riders on the applicator or tractor during operation or transporting.

W-2015-021

FIELD OPERATION (CONT'D)

 **WARNING**

 **WARNING**

AVOID INJURY OR DEATH

Clear area of all bystanders, especially children, before starting or filling with chemical or fertilizer.

W-2015-022

 **WARNING**

AVOID INJURY OR DEATH

Do not breathe, touch or ingest chemicals or fertilizer. Always wear protective clothing and follow safe handling procedures.

W-2015-024

 **WARNING**

AVOID INJURY OR DEATH

Read chemical or fertilizer manufacturers warnings, instructions and procedures before starting and follow them exactly.

W-2015-023

 **WARNING**

AVOID INJURY OR DEATH

Stay away from wings when folding or extending wings. Keep others away.

W-2015-025

 **WARNING**

AVOID INJURY OR DEATH

Do not exceed a safe travel speed.

W-2015-026

 **WARNING**

AVOID INJURY OR DEATH

Stay away from overhead power lines when folding or extending the wings and during transport.

W-2015-027

FIELD OPERATION (CONT'D)

 **WARNING**

IMPORTANT

Clean reflectors, SMV emblem and lights before transporting.

I-2015-014

IMPORTANT

Attach securely to towing unit using a hardened pin with a retainer and a safety chain.

I-2015-015

IMPORTANT

Use hazard flasher on tractor when transporting.

I-2015-016

IMPORTANT

Verify main tank is empty before transporting on road.

I-2015-017

ATTACH APPLICATOR TO MACHINE. (SEE CONNECTING THE FERTILIZER APPLICATOR TO THE TRACTOR ON PAGE 30.) & (SEE CONNECTING HYDRAULIC HOSES AND ELECTRICAL CONNECTIONS ON PAGE 32.)

IMPORTANT

Review and follow pre-operation checklist.

(See Connecting The Fertilizer Applicator To The Tractor on Page 30.)

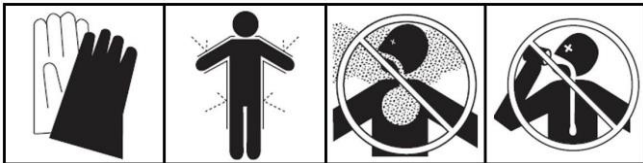
Unfold/extend toolbar. *(See Unfold Toolbar on Page 35.)*

Set the coulters. *(See Adjust Coulter Depth on Page 41.)*

Filling spray tank:

- Park tractor and applicator on a flat surface.
- Read and follow chemical/fertilizer manufacturers' instructions.

DANGER



CHEMICAL HAZARD

To prevent serious injury or death:

WEAR PERSONAL PROTECTIVE EQUIPMENT

- Do not allow chemical or solution to touch skin.
- Some chemicals can be absorbed through the skin.
- Wear rubber gloves and protective gear at all times.

DON'T BREATHE VAPOR

- Avoid chemical splash and vapor. Keep others away.
- Do not breathe vapor.
- Wear proper respirator when working with chemicals.
- Chemicals can be toxic.

DON'T INGEST CHEMICAL

- If in eyes or mouth, read manufacturer's instructions and follow them exactly.
- Seek immediate medical attention.
- Before working with chemicals, know the poison control phone number for your location.

D-2015-006

FIELD OPERATION (CONT'D)

WARNING

AVOID SERIOUS INJURY OR DEATH

Always read the label before using chemicals. Follow the instructions from the chemical manufacturer on how to select, use and handle each chemical. Note protection information each time before opening the container.

W-2015-035

WARNING

AVOID SERIOUS INJURY OR DEATH

Do not spill chemicals on skin or clothing. If chemicals are spilled, remove contaminated clothing immediately and wash skin (and clothing) thoroughly with soap and water. Wash hands and face with soap and water and change clothing after spraying.

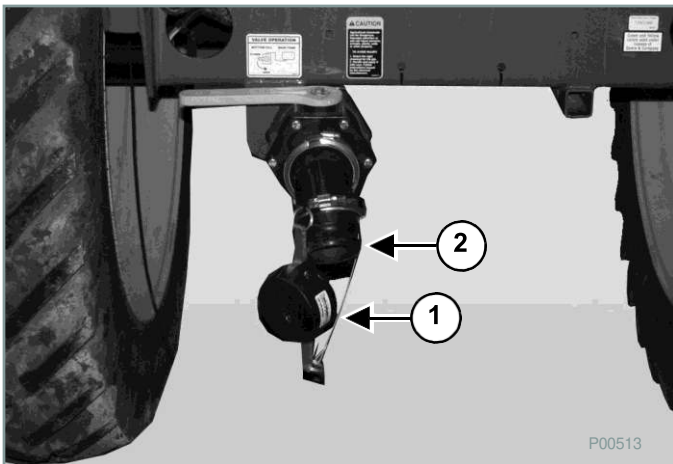
W-2015-034

WARNING

Verify main tank is empty before transporting on road.

I-2015-017

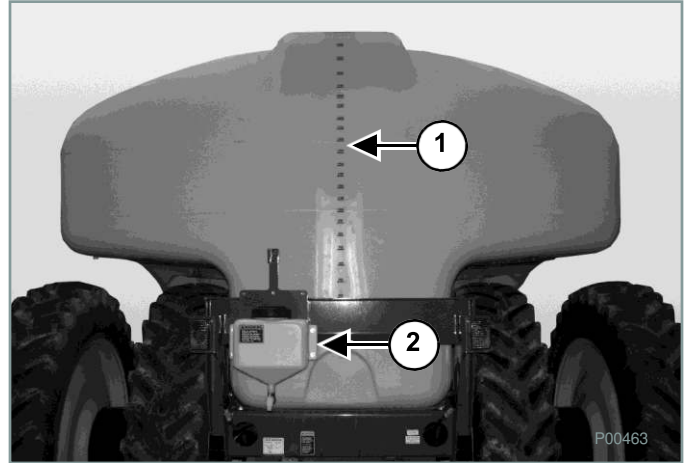
Figure 30



- Move tender truck to applicator.

- Remove cover (Item 1) [Figure 30]
- Connect transfer hose to bottom fill line (Item 2) [Figure 30].
- Start pump on tender truck and open valve on input line. (See tender truck Operation & Maintenance manual.)

Figure 31



- Pump until tank is filled to desired level (Item 1) [Figure 31]. Verify level using capacity scale.

NOTE: Do not overfill.

- Close input valve and stop pump on tender truck. (See tender truck Operation & Maintenance manual.)
- Remove and stow fill line.
- Install and fasten input line covers (Item 1) [Figure 30].

Fresh Water Rinse Tank:

- Fill rinse tank with clean fresh water (Item 2) [Figure 31].

NOTE: Do not allow rinse tank to run low on fresh water. Use water from rinse tank to clean, rinse or wash anything that has become contaminated.

Set applicator controller for **EXACTLY** how much liquid is being applied.

NOTE: Incorrect application rates can dramatically affect seed germination and yields. Set at start of season or when changing application rate.

Starting:

- Set engine RPM at rated speed. (See the tractor's Operation & Maintenance manual.)
- Engage tractor's hydraulic system. (See the tractor's Operation & Maintenance manual.)
- Place hydraulic motor control lever in detent. (See the tractor's Operation & Maintenance manual.)
- Start into field.
- Lower the toolbar into ground. (See Raising And Lowering Toolbar on Page 38.)
- Turn on boom sections. (See the applicator controller's Operation & Maintenance manual.)

NOTE: Best results are obtained ground speed is 5 - 8 mph (8 - 13 kph). Ground speed variations in the field will automatically be compensated. Always operate at a comfortable speeds. Do not operate so fast that toolbar or tank bounce while going through field. Effective results require that liquid be applied at a consistent depth in a consistent manner. Machine bouncing will prevent this required consistency.

Stopping:

- Turn off boom sections.
- Place hydraulic motor control lever in *float* position and lift toolbar out of ground.
- Stop forward motion of machine, place hydraulic lever in its off position.
- Reduce engine RPM to low idle.

Emergency stop:

- If an emergency arises, shut engine *off* to stop machine or stop forward motion.

NOTE: When starting after an emergency stop, use starting information on this page.

Set outer wing valve.

- Set valve closed if outer wing is in the unfolded/retracted position.
- Set valve open if outer wing is in the folded/extended position.

Set ground speed.

Set desired application rate.

NOTE: Always run at established travel speed.

POST-OPERATION DISCONNECTION

WARNING

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running equipment. Be careful when connecting and disconnecting quick couplers.

W-2015-031

Release pressure and pull the male coupler out to disconnect. (See the tractor's Operation And Maintenance manual.)

Disconnect electrical connectors from the tractor.

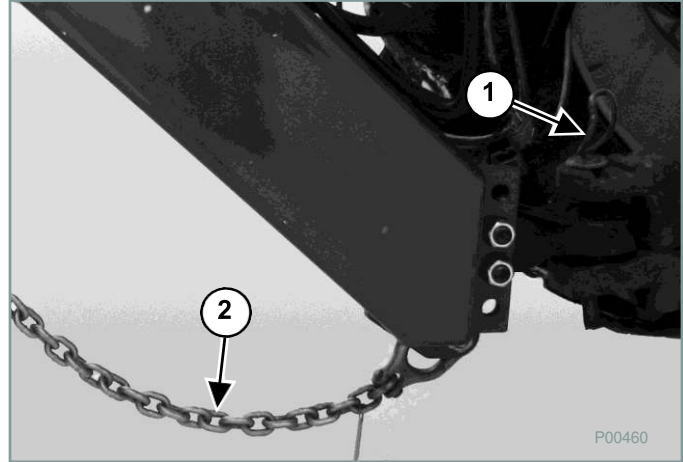
Figure 32



Place the jack in the vertical position.

Turn the jack handle (Item 1) **[Figure 32]** clockwise to raise the hitch until the weight of the applicator is on the jack.

Figure 33



Remove the safety chain (Item 2) **[Figure 33]** around the drawbar.

Remove the hitch pin (Item 1) **[Figure 33]** and retaining pin.

Turn the jack handle (Item 1) **[Figure 32]** counterclockwise to lower the hitch. Place jack in the stowed position.

Move to the operator's seat, start the engine and release the parking brake. (See Entering And Exiting Operator's Position on Page 30.)

Move the tractor away from the fertilizer applicator.

TRANSPORTATION

I-2015-024



DANGER

ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

- Be aware of overhead powerlines.
- Keep away from powerlines when transporting or folding or unfolding wings.
- Electrocution can occur without direct contact.

D-2015-004



WARNING

AVOID SERIOUS INJURY OR DEATH

Daybreak and dusk are particularly dangerous and pilot vehicles are recommended.

W-2015-033



DANGER

PREVENT EQUIPMENT DAMAGE.

Verify main tank is empty before transporting on road.

I-2015-025

IMPORTANT

- Check with local authorities regarding applicator transport on public roads. Obey all applicable laws and regulations.
- Always travel at a safe speed. Use caution when making corners or meeting traffic.
- Make sure SMV (Slow Moving Vehicle) emblem and all lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.

IMPORTANT

PREVENT EQUIPMENT DAMAGE.

Be sure applicator is hitched securely to towing vehicle and a retainer is used through drawbar pin. Always attach a safety chain between frame and towing vehicle.

I-2015-026

NOTE: Keep to right and yield right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.

Be sure all bystanders are clear of machine.

Be sure that applicator is properly connected to tractor. Always attach safety chain between machine and tractor and install a retainer through drawbar pin.

Keep safe distance from overhead power lines when folding or extending the wings.

Install transport lock spacers on lift cylinders before transporting.

Note: Add more lock spacers to prevent the toolbar from dropping during transport.

Depending on machine configuration, wheels may need to be moved in, inverted or duals removed to reduce machine transport width to 18 feet or less.

TRANSPORTATION (CONT'D)

Make sure SMV (Slow Moving Vehicle) emblem and all lights and reflectors that are required by local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.

DO NOT transport faster than 20 mph (32 kmh). Follow chart below for travel speeds.

| MAXIMUM TRAVEL SPEED | WEIGHT OF FULLY EQUIPPED APPLICATOR VERSES WEIGHT OF TRACTOR |
|-----------------------------|---|
| 20 mph (32 kmh) | 1 to 1 or less |
| 10 mph (16 kmh) | 2 to 1 or less |
| DO NOT TOW | More than 2 to 1 |

STORAGE INSTRUCTIONS



AVOID SERIOUS INJURY OR DEATH

- **Store unit in an area away from human activity.**
- **Do not permit children to play on or around stored applicators.**

W-2015-036

Storage

At end of season, thoroughly inspect and prepare applicators for storage. Repair or replace any worn or damaged components.

- Empty remaining liquid from the tanks.
- Open liquid line connections, screen canister and pump. Drain all fluids out of system. Reinstall all plugs.
- Use 10 gal (38 l) marine RV anti-freeze, pump through screens, valve, nozzles/check valves and orifices/tips.

NOTE: Do not use liquid fertilizer as anti-freeze.

- Thoroughly wash applicator using a pressure washer.
- Lubricate the equipment.
- Inspect all hydraulic hoses, couplers and fittings. Replace or repair as necessary.
- Inspect all liquid lines and connections. Replace or repair as necessary.
- Touch up all paint nicks and scratches to prevent rusting.
- Install spacers on all lift cylinder rams.
- Move machine to a storage position.
- Select an area that is dry, level and free of debris.
- Unhook applicator from tractor.

STORAGE INSTRUCTIONS (CONT'D)

Re-Commissioning

After the FAST AG Solutions equipment has been in storage, it is necessary to follow a list of items to return the equipment to service.

- Clear area of bystanders, especially small children, and remove foreign objects from machine and working area.
- Attach tractor to applicator.
- Check:
 - Attach and secure all liquid lines.
 - Coulters and nozzles
 - All hardware
 - Tire pressure
 - All hydraulic lines, fittings and connections
- Lubricate the equipment.
- Replace any defective parts.
- Drain anti-freeze.
- Turn pump metering system on momentarily and confirm it turns freely.
- Add a small amount of liquid to tank. Turn metering pump on momentarily and check that liquid comes out of each nozzle.
- Follow pre-operation checklist.
(See *Pre-Operation Checklist on Page 28.*)



MAINTENANCE AND REPAIR

MAINTENANCE AND REPAIR SAFETY PRECAUTIONS 55

PREVENTATIVE MAINTENANCE 55

 Eight Hours Or Daily 55

 Annually 60

 Service Record 61

MAINTENANCE PROCEDURES 62

 Adjust Gauge Wheel Height 62

 Nozzles..... 63

SPECIFICATIONS 64

 Settings 64

 Lubricants 64

 Torque Values 65

TROUBLESHOOTING 66

 Chart..... 66



MAINTENANCE AND REPAIR SAFETY PRECAUTIONS

WARNING



CRUSHING HAZARD

Keep fingers and hands out of pinch points when connecting and disconnecting equipment.

W-2014-002

WARNING

AVOID INJURY OR DEATH

Use of an unapproved hitch or tow vehicle can result in loss of control, leading to serious injury or death. Tow vehicle and hitch must have the rated capacity to tow this equipment.

W-2014-004

WARNING

AVOID SERIOUS INJURY OR DEATH

Lower machine to the ground, place all controls in neutral, stop engine, set park brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

W-2015-037

WARNING

PREVENT EQUIPMENT DAMAGE

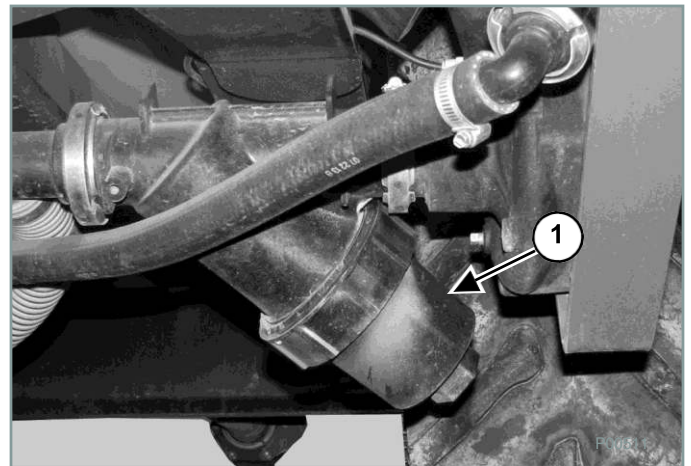
When lubricating the equipment:

- Use only a hand-held grease gun for all greasing.
- Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
- Replace and repair broken fittings immediately.
- If a fitting will not take grease, remove and clean thoroughly. Clean and lubricant passageway. Replace fitting if necessary.

I-2015-027

Eight Hours Or Daily

Figure 35



Remove and wash fertilizer strainer screen (Item 1) [Figure 35] using clean water.

NOTE: Collect and dispose of any liquid in a approved container.

PREVENTATIVE MAINTENANCE (CONT'D)

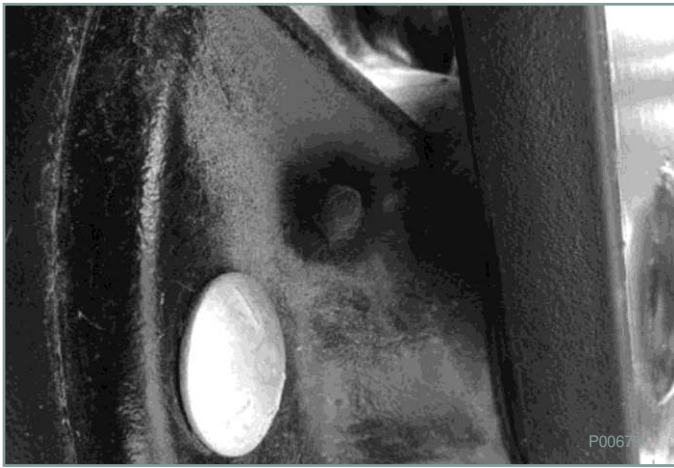
Eight Hours Or Daily (Cont'd)

Figure 36



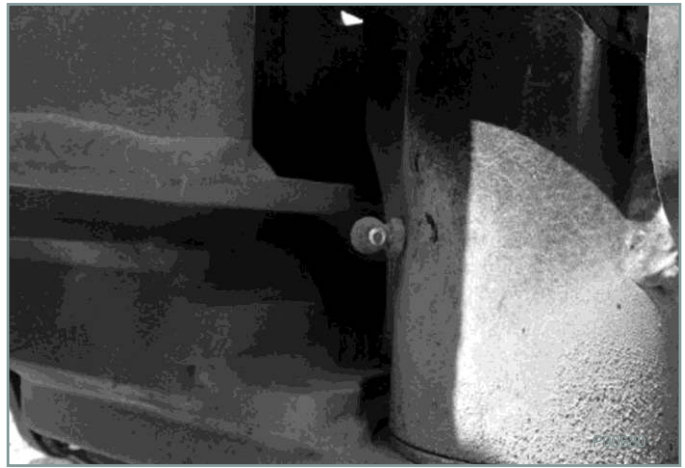
Lubricate bull pull hitch [Figure 36].

Figure 37



Lubricate coulters hubs [Figure 37].

Figure 38



Lubricate wing pivot [Figure 38].

Figure 39



Lubricate flex hinge on wing pivot [Figure 39].

PREVENTATIVE MAINTENANCE (CONT'D)

Eight Hours Or Daily (Cont'd)

Figure 40

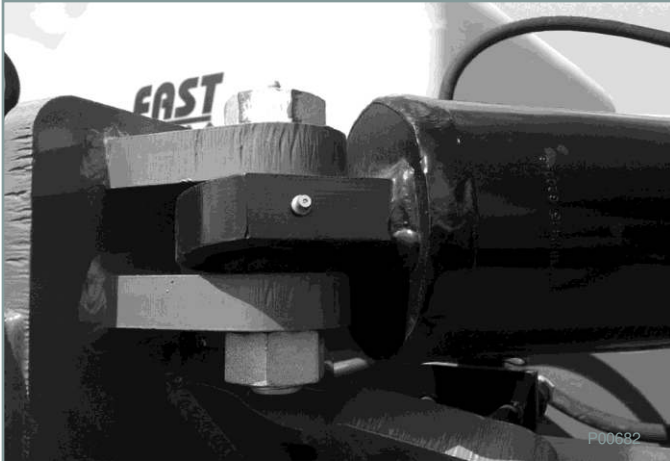
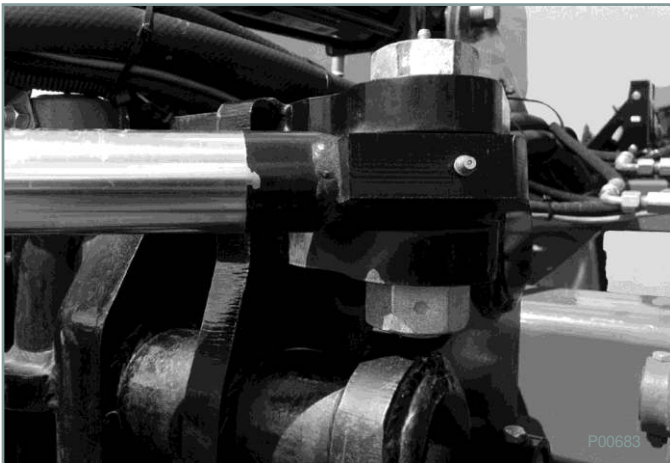
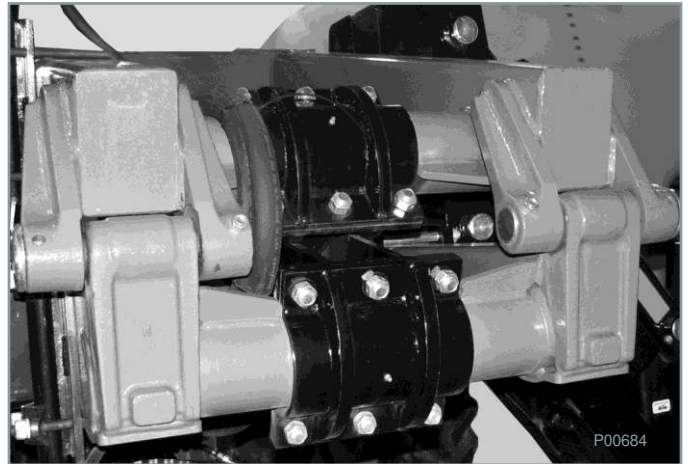


Figure 41



Lubricate swing cylinder [Figure 40] and [Figure 41].

Figure 42



Lubricate flip wing link [Figure 42].

Figure 43



Lubricate flip wing cylinder pin [Figure 43].

PREVENTATIVE MAINTENANCE (CONT'D)

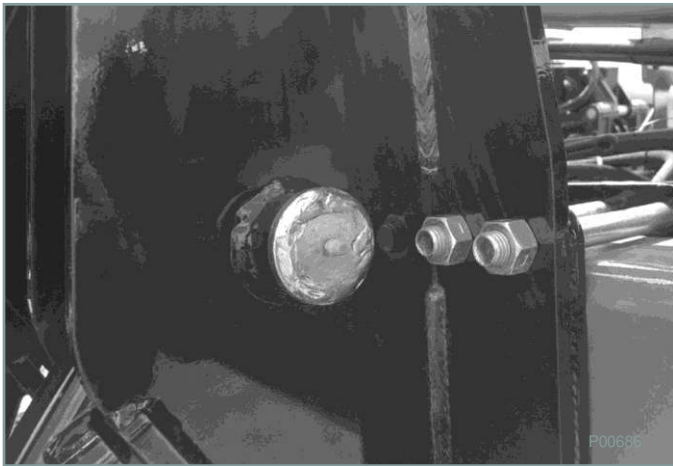
Eight Hours Or Daily (Cont'd)

Figure 44



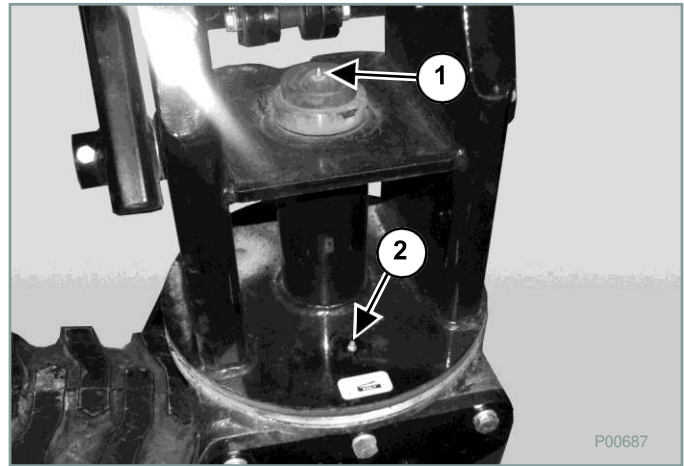
Lubricate flex hinge on wing pivot [Figure 44].

Figure 45



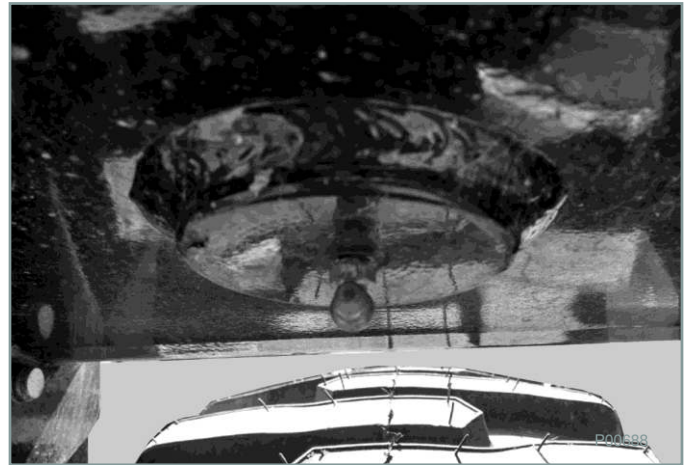
Lubricate caster parallel link pin (eight places) [Figure 45].

Figure 46



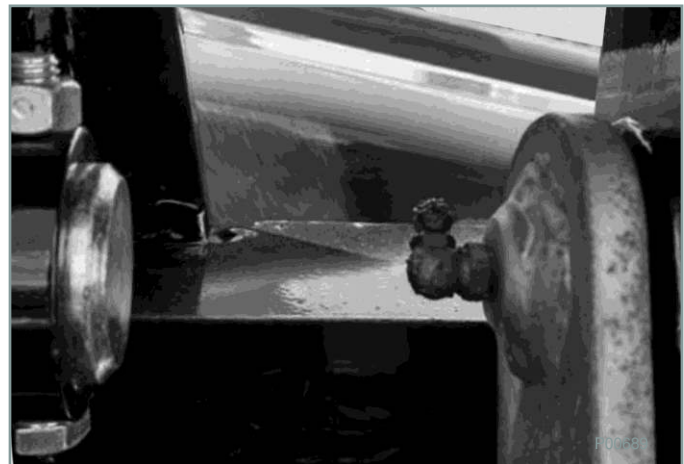
Lubricate caster spindle top (Item 1) and spindle pivot plate (Item 2) [Figure 46].

Figure 47



Lubricate caster spindle bottom bearing [Figure 47].

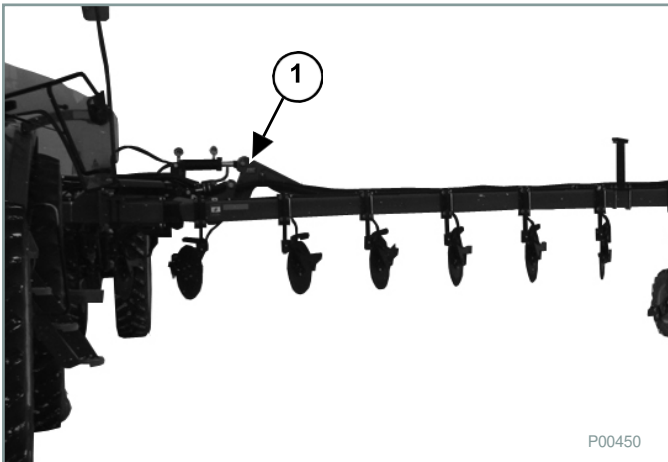
Figure 48



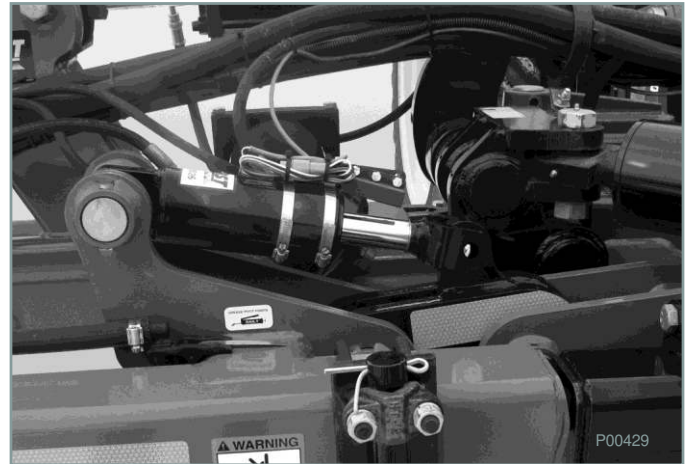
Lubricate caster spindle cylinder top pin [Figure 48].

PREVENTATIVE MAINTENANCE (CONT'D)**Eight Hours Or Daily (Cont'd)****Figure 49**

Lubricate toolbar parallel linkage **[Figure 49]** (5 locations per side).

Figure 50

Lubricate flip wing toolbar hinges (Item 1) **[Figure 50]** (two locations per side).

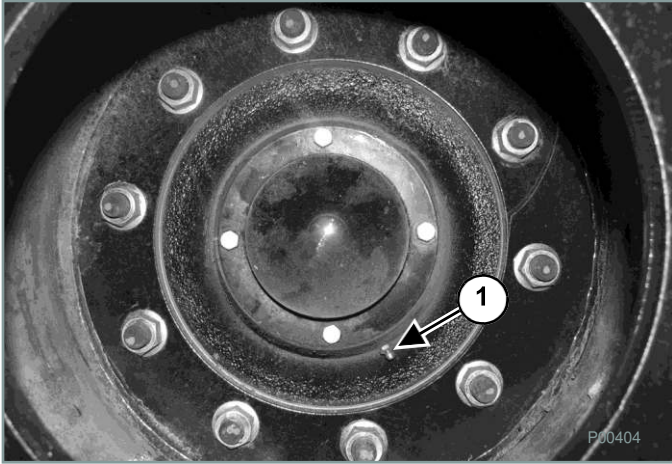
Figure 51

Lubricate inner wing hinges, latch cylinder pins and fold pins **[Figure 51]** (three locations per hinge).

PREVENTATIVE MAINTENANCE (CONT'D)

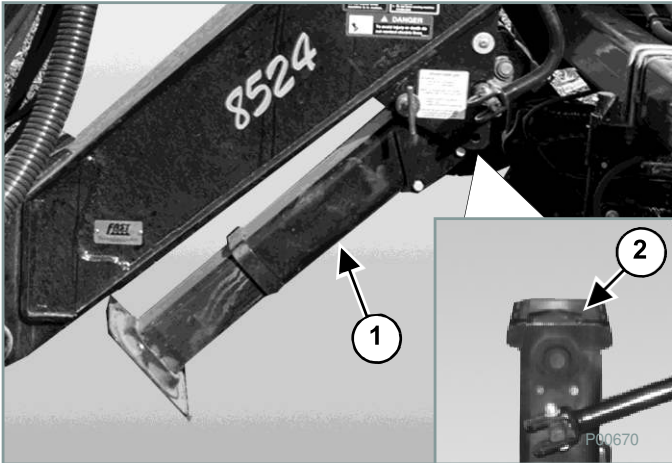
Annually

Figure 52



Grease wheel bearings (Item 1) [Figure 52].

Figure 53



Jack preventative maintenance [Figure 53]:

1. Remove jack (Item 1) from mount.
2. Remove top cover (Item 2) and check grease level.
3. Install cover (Item 2) and install jack (Item 1) on machine.



PREVENTATIVE MAINTENANCE (CONT'D)

Service Record

| ITEM | HOURS | | | | | | | | | | | | |
|-----------------------|-------------|--|--|--|--|--|--|--|--|--|--|--|--|
| | SERVICED BY | | | | | | | | | | | | |
| 8 Hours or Daily | | | | | | | | | | | | | |
| Strainer Screen (C) | | | | | | | | | | | | | |
| Toolbar Linkage (L) | | | | | | | | | | | | | |
| Flip Wing Hinges (L) | | | | | | | | | | | | | |
| Inner Wing Hinges (L) | | | | | | | | | | | | | |
| Annually | | | | | | | | | | | | | |
| Wheel Bearings (L) | | | | | | | | | | | | | |
| Jack (L) | | | | | | | | | | | | | |

(C)-Cleaning

(L)-Lubricating

Place a check mark (,) next to the item completed.

Copy this page to continue service record history.

| ITEM | HOURS | | | | | | | | | | | | |
|-----------------------|-------------|--|--|--|--|--|--|--|--|--|--|--|--|
| | SERVICED BY | | | | | | | | | | | | |
| 8 Hours or Daily | | | | | | | | | | | | | |
| Strainer Screen (C) | | | | | | | | | | | | | |
| Toolbar Linkage (L) | | | | | | | | | | | | | |
| Flip Wing Hinges (L) | | | | | | | | | | | | | |
| Inner Wing Hinges (L) | | | | | | | | | | | | | |
| Annually | | | | | | | | | | | | | |
| Wheel Bearings (L) | | | | | | | | | | | | | |
| Jack (L) | | | | | | | | | | | | | |

(C) - Cleaning

(L) - Lubricating

Place a check mark (✓) next to the item completed.

Copy this page to continue service record history.

MAINTENANCE PROCEDURES

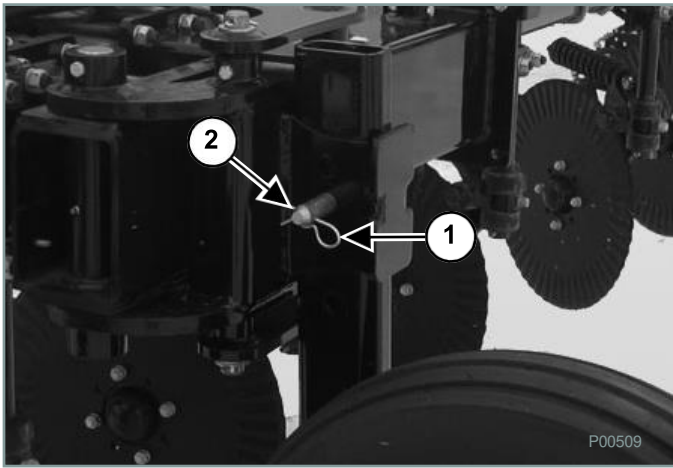
WARNING

Check for correct function after adjustments, repairs or service. Failure to make needed repairs or adjustments can cause injury or death.

W-2013-003

Adjust Gauge Wheel Height

Figure 54



Remove lock pin (Item 1) and pin (Item 2) [Figure 54] and adjust gauge wheel height as desired.

Install pin (Item 2) and lock pin (Item 1) [Figure 54].

MAINTENANCE PROCEDURES (CONT'D)**Nozzles** **WARNING****AVOID SERIOUS INJURY OR DEATH**

- Check chemical or fertilizer MSDS for proper handling instructions.
- Toxic chemicals can enter the body by breathing, spray or contact with bare skin. Do not take a chance with your health and safety.

W-2015-032

 **WARNING****AVOID SERIOUS INJURY OR DEATH**

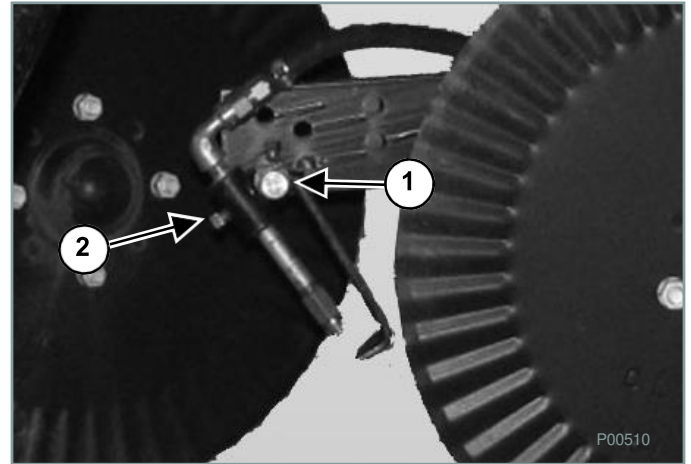
Lower machine to the ground, place all controls in neutral, stop engine, set park brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

W-2015-037

Extend wings and raise toolbar to its fully upright position. (See Unfold And Fold Toolbar on Page 35.)

Place safety stands under center toolbar or install transport lock spacers over lift cylinder rams.

Figure 55

*Adjust Nozzle Angle*

Loosen setscrew (Item 1) [Figure 55] to set nozzle at required angle and centered behind coulters.

NOTE: The best results are obtained when nozzle directs liquid approximately 1 inch (25 mm) behind coulters.

Nozzle Spray Pattern

Loosen setscrew (Item 2) [Figure 55] to adjust nozzle spray parallel with furrow.

NOTE: Sight along nozzle and coulters. Nozzle should direct liquid directly behind coulters.

SPECIFICATIONS

Settings

Not Applicable

Lubricants

All Components Except Coulter: Use an SAE multi-purpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multi-purpose lithium base grease.

Coulter: Use an SAE premium lithium complex grease meeting NLG 1 certification GC-LB.

SPECIFICATIONS (CONT'D)


Torque Values

The following table shows standard torque specifications for bolts.

| | Thread Size | SAE Grade 5 | SAE Grade 8 |
|----------------|----------------|------------------------------|------------------------------|
| in-lb (N-m) | 0.250 1/4 | 80 - 90 (9.0 - 10.2) | 110 - 120 (12.4 - 13.6) |
| | 0.3125 5/16 | 180 - 200 (20.3 - 22.6) | 215 - 240 (24.2 - 27.1) |
| ft-lb (N-m) | 0.375 3/8 | 25 - 28 (34 - 38) | 35 - 40 (47 - 54) |
| | 0.4375 7/16 | 40 - 45 (54 - 61) | 60 - 65 (81 - 88) |
| | 0.500 1/2 | 65 - 70 (88 - 95) | 90 - 100 (122 - 136) |
| | 0.5625 9/16 | 90 - 100 (122 - 136) | 125 - 140 (170 - 190) |
| | 0.625 5/8 | 125 - 140 (170 - 190) | 175 - 190 (240 - 260) |
| | 0.750 3/4 | 220 - 245 (300 - 330) | 300 - 330 (410 - 450) |
| | 0.875 7/8 | 330 - 360 (450 - 490) | 475 - 525(645 - 710) |
| | 1.000 1 | 475 - 525 (645 - 710) | 725 - 800 (985 - 1085) |
| | 1.125 1 1/8 | 650 - 720 (880 - 975) | 1050 - 1175 (1425 - 1600) |
| | 1.250 1 1/4 | 900 - 1000 (1200 - 1360) | 1475 - 1625 (2000 - 2200) |
| | 1.375 1 3/8 | 1200 - 1350 (1630 - 1830) | 2000 - 2200 (2720 - 2980) |
| | 1.500 1 1/2 | 1500 - 1650 (2040 - 2240) | 2600 - 2850 (3530 - 3870) |
| | 1.625 1 5/8 | 2000 - 2800 (2720 - 2980) | 3450 - 3800 (4680 - 5150) |
| | 1.750 1 3/4 | 2500 - 2750 (3390 - 3730) | 4300 - 4800 (5830 - 6500) |
| | 1.875 1 7/8 | 3150 - 3500 (4270 - 4750) | 5500 - 6100 (7450 - 8300) |
| | 2.000 1 | 3800 - 4200 (5150 - 5700) | 6500 - 7200 (8800 - 9800) |

TROUBLESHOOTING

Chart

| | |
|--|--|
|  WARNING | <p>Instructions are necessary before operating or servicing equipment. Read and understand the Operation, Maintenance & Parts Manual, signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.</p> <p style="text-align: right;">W-2013-002</p> |
|--|--|

Use the following troubleshooting chart to locate and correct problems which most often occur with the equipment.

| PROBLEM | CAUSE | CORRECTION |
|---|----------------------------------|--|
| Wings will not extend. | Lock valve is closed. | Open lock valve. |
| | Transport chain hooked | Unhook wings. |
| Applicator will not turn on. | No power. | Connect power line to 12 volt power source in tractor cab. |
| | Line valve is closed. | Open line valve. |
| | Filter screen is plugged. | Remove filter and clean screen. |
| Coulter does not penetrate the ground. | Down-load pressure too low. | Increase down-load pressure to the inner or outer wing as needed. |
| | Gauge wheel is set too low. | Raise gauge wheel(s) as needed. |
| Coulter penetrates too far into the ground. | Down-load pressure too high. | Decrease down-load pressure to the inner or outer wing as needed. |
| | Gauge wheel is set too high. | Lower gauge wheel(s) as needed. |
| Wings shutter / chatter when folded/unfolded. | Hydraulic flow too high. | Lower hydraulic flow to fold/unfold circuit to 6 - 15 gpm (22.71 - 56.78 lpm). |
| Toolbar shutters / chatters when raised. | Hydraulic flow too high. | Lower hydraulic flow to raise/lower circuit to 6 - 15 gpm (22.71 - 56.78 lpm). |
| Lift assist wheels will not fully extend. | Flow speed incorrectly adjusted. | Adjust flow speed. (See Tool Bar Raise/Lower Adjustments on Page 39.) |

NOTE: For Electric Schematics, see *Illustrated Parts Section Pages 130 through 144.*

NOTE: For Hydraulic Schematics, see *Illustrated Parts Section Pages 156 through 163.*

ILLUSTRATED PARTS LISTS

| | |
|--|-----|
| Introduction | 69 |
| 8524 Liquid Fertilizer Applicator | 70 |
| Cart/Main Frame Assembly (Hitch And Jack)..... | 74 |
| Cart/Main Frame Assembly (Parallel Links) | 76 |
| Cart/Main Frame Assembly (Wing Transport Stops)..... | 78 |
| Axle Assemblies..... | 80 |
| Axle Assembly Options | 82 |
| Tire And Rim..... | 83 |
| Center Wing Assembly..... | 85 |
| Inner Wing Assembly (Left And Right)..... | 87 |
| Mid Wing Assembly (Left And Right) | 90 |
| Outer Wing Assembly (Left And Right)..... | 92 |
| Lift Assist And Swivel Wheel Assembly | 94 |
| Six Bolt Hub Assembly..... | 98 |
| Gauge Wheel Assembly | 100 |
| FAST Coulter Assembly..... | 102 |
| Coulter Knife Assembly..... | 104 |
| Coulter Injection Assembly..... | 106 |
| 2400 Tank Assemblies..... | 108 |
| Three Inch Quick Fill | 110 |
| Tank To Pump Plumbing..... | 111 |
| Large Cart To Ball Valve Plumbing..... | 112 |
| Toolbar Plumbing | 114 |
| Agitation And Control | 116 |
| Ace 205F - 304 Pump..... | 118 |
| Hypro Pump..... | 120 |
| Directo Valve® Electric 2-Way Ball Valve Manifold..... | 122 |
| 1-1/2 In. Poly Control Valve Assembly (063-0171-894) | 124 |
| Flowmeter, Raven, RFM100 P Assembly (063-0171-066) | 125 |
| Flowmeter, Raven, RFM60 P Assembly (063-0171-793) | 126 |
| Raven SCS450 Console..... | 128 |

| | |
|---|-----|
| Electrical Schematic Control Console Harness (155-0171-085) | 130 |
| Electrical Schematic Control Console Harness (155-0159-856) | 131 |
| Electrical Schematic Control Console Harness (155-0171-086) | 132 |
| Raven, Cable 12 Ft. Product, 10 Boom Assembly (115-0171-313)..... | 134 |
| Product Controller Liquid System, 16 Pin Product Cable | 136 |
| Product Controller Liquid System, 37 Pin Product Cable | 138 |
| Cable, 17 Ft., ISO, Hitch To Raven ECU Assembly (115-0172-034) | 140 |
| Raven, Cable 4400/4600 Interface, 37 Pin Product Controller Assembly (115-0171-945) | 142 |
| Raven, Cable, Adapter, ISO To Active Terminator Assembly (115-0171-963) | 144 |
| Fold Control Cab Box (304-041) | 146 |
| Wiring Harness Connection (314-217) | 148 |
| Harness Connector (319-759) | 149 |
| Fold Control Block Harness (304-042)..... | 150 |
| Valve Block And Harness (303-131) | 152 |
| Valve Block (302-469) | 153 |
| Control Box To Control Valve Operation And Pin-Out Location | 154 |
| Fold Hydraulic System | 156 |
| Lift And Down Pressure Hydraulic System | 160 |
| Hydraulic Hose Description | 164 |
| Pump Hydraulic System..... | 166 |
| Lighting | 167 |
| Toolbox Carrier | 168 |
| Injector And Knife Kits Contents | 169 |

ILLUSTRATED PARTS LIST

Introduction

These parts lists are broken down into sub-assemblies.
For locations of the part's lists see page 70.

Part Procurement

To order parts have the serial number of the equipment available. (See Equipment Serial Number on Page 4.)
Contact:

FAST AG Solutions
4130 Commerce Blvd.
Windom, MN 56101

1-800-772-9279 Toll Free
507-427-3861 Voice
1-507-427-3030 Fax

www.fastsprayers.com

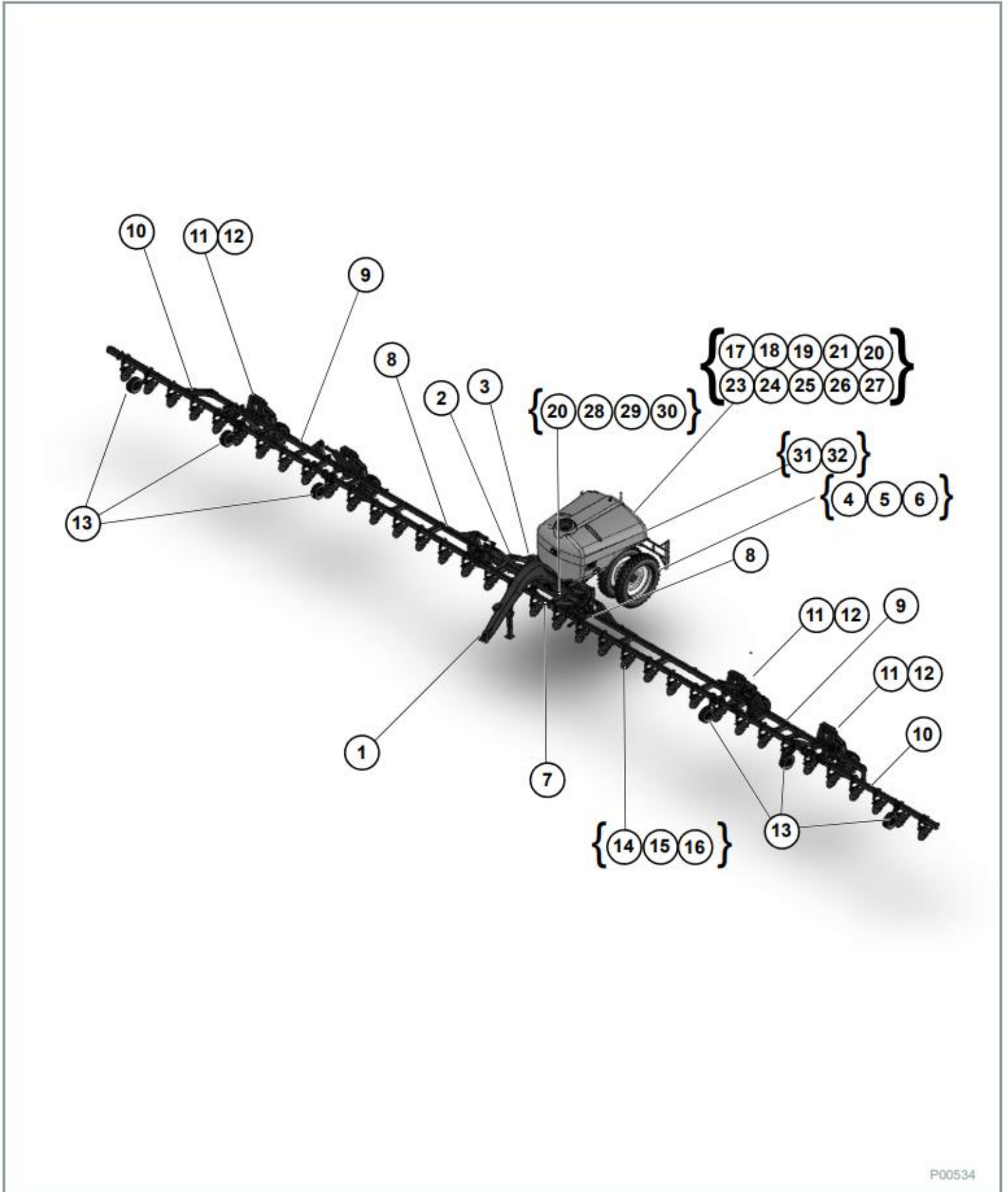
Explanation Of Notations

The parts lists are broken down into four columns:

- ITEM NO. – These numbers are found on the illustration associated with the parts list.
- PART NO. – These are the part numbers associated to the ITEM NO.
- DESCRIPTION – This is the description of the part.
- QTY. – This is the quantity of parts needed in an assembly.
 - NS – Not Shown
 - AR – As Required
 - NA – Not Applicable

ILLUSTRATED PARTS LIST (CONT'D)

8524 Liquid Fertilizer Applicator



P00534

ILLUSTRATED PARTS LIST (CONT'D)

8524 Liquid Fertilizer Applicator (Cont'd)

| ITEM NO. | DESCRIPTION | PAGE # |
|----------|--|--------|
| 1 | CART/MAIN FRAME ASSEMBLY (HITCH AND JACK) | 74 |
| 2 | CART/MAIN FRAME ASSEMBLY (PARALLEL LINKS) | 76 |
| 3 | CART/MAIN FRAME ASSEMBLY (WING TRANSPORT STOPS) | 78 |
| 4 | AXLE ASSEMBLIES | 80 |
| 5 | AXLE ASSEMBLY OPTIONS | 82 |
| 6 | TIRE AND RIM | 84 |
| 7 | CENTER WING ASSEMBLY | 86 |
| 8 | INNER WING ASSEMBLY (LEFT AND RIGHT) | 88 |
| 9 | MID WING ASSEMBLY (LEFT AND RIGHT) | 90 |
| 10 | OUTER WING ASSEMBLY (LEFT AND RIGHT) | 92 |
| 11 | LIFT ASSIST AND SWIVEL WHEEL ASSEMBLY | 94 |
| 12 | SIX BOLT HUB ASSEMBLY | 98 |
| 13 | GAUGE WHEEL ASSEMBLY | 100 |
| 14 | FAST COULTER ASSEMBLY | 102 |
| 15 | COULTER KNIFE ASSEMBLY | 104 |
| 16 | COULTER INJECTION ASSEMBLY | 106 |
| 17 | 2400 TANK ASSEMBLIES | 108 |
| 18 | THREE INCH QUICK FILL | 110 |
| 19 | TANK TO PUMP PLUMBING | 111 |
| 20 | LARGE CART TO BALL VALVE PLUMBING | 112 |
| 21 | TOOLBAR PLUMBING | 114 |
| 22 | AGITATION AND CONTROL | 116 |
| 23 | ACE 205F - 304 PUMP | 118 |
| 24 | HYPRO PUMP | 120 |
| 25 | DIRECTOVALVE® ELECTRIC 2-WAY BALL VALVE MANIFOLD | 122 |
| 26 | 1-1/2 IN. POLY CONTROL VALVE ASSEMBLY (063-0171-894) | 124 |
| 27 | FLOWMETER, RAVEN, RFM100 P ASSEMBLY (063-0171-066) | 125 |
| | FLOWMETER, RAVEN, RFM60 P ASSEMBLY (063-0171-793) | 126 |
| NS | RAVEN SCS450 CONSOLE | 128 |
| NS | ELECTRICAL SCHEMATIC CONTROL CONSOLE HARNESS (155-0171-085) | 130 |
| NS | ELECTRICAL SCHEMATIC CONTROL CONSOLE HARNESS (155-0159-856) | 131 |
| NS | ELECTRICAL SCHEMATIC CONTROL CONSOLE HARNESS (155-0171-086) | 132 |
| NS | RAVEN, CABLE 12 FT. PRODUCT, 10 BOOM ASSEMBLY (115-0171-313) | 134 |
| NS | PRODUCT CONTROLLER LIQUID SYSTEM, 16 PIN PRODUCT CABLE | 136 |
| NS | PRODUCT CONTROLLER LIQUID SYSTEM, 37 PIN PRODUCT CABLE | 138 |
| NS | CABLE, 17 FT., ISO, HITCH TO RAVEN ECU ASSEMBLY (115-0172-034) | 140 |

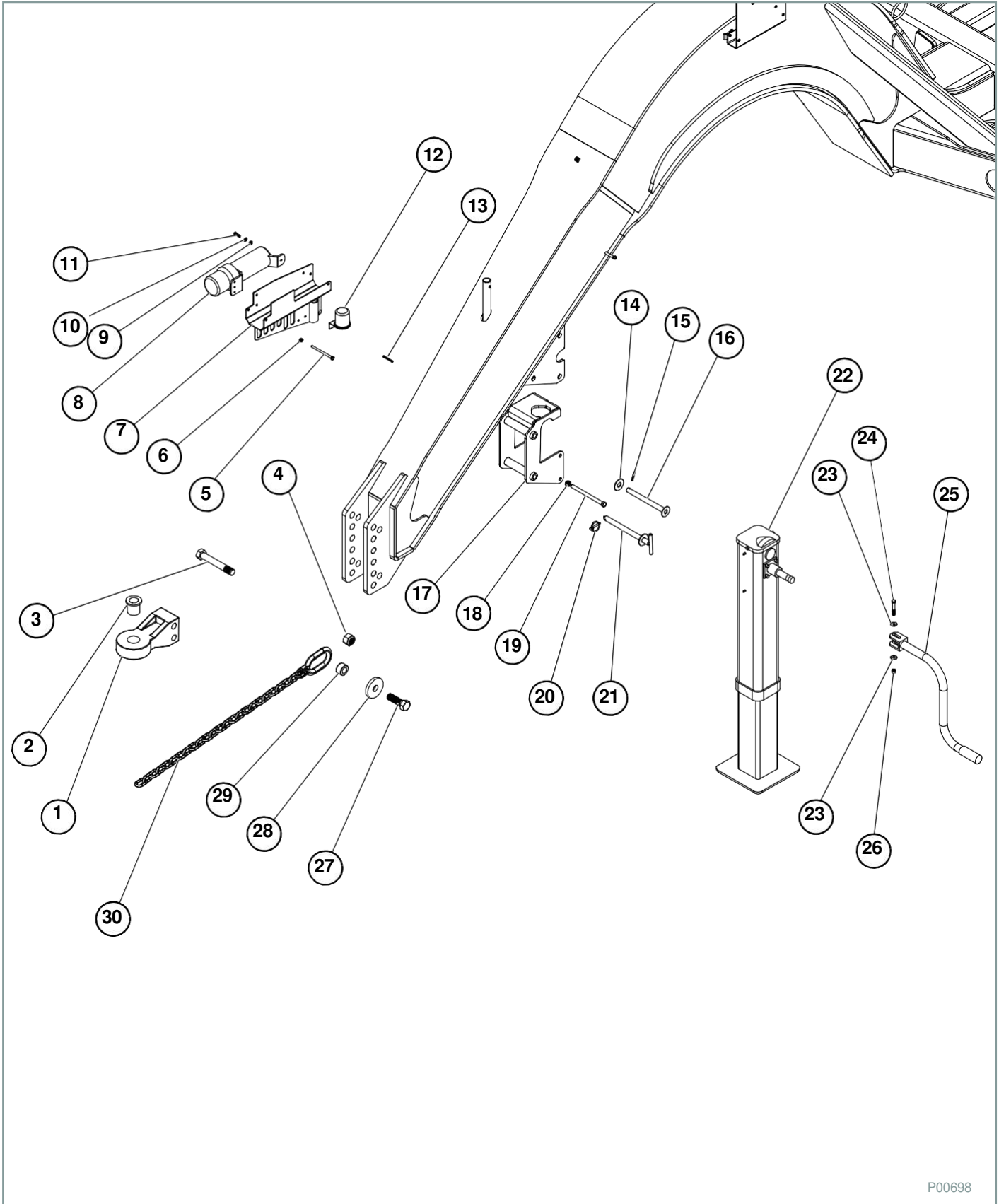
ILLUSTRATED PARTS LIST (CONT'D)**8524 Liquid Fertilizer Applicator (Cont'd)**

| ITEM NO. | DESCRIPTION | PAGE # |
|-----------------|---|---------------|
| NS | RAVEN, CABLE, ADAPTER, ISO TO ACTIVE TERMINATOR ASSEMBLY (115-0171-963) | 144 |
| NS | RAVEN, CABLE, ADAPTER, ISO TO ACTIVE TERMINATOR ASSEMBLY (115-0171-963) | 144 |
| NS | FOLD CONTROL CAB BOX (304-041) | 146 |
| NS | WIRING HARNESS CONNECTION (314-217) | 148 |
| NS | HARNESS CONNECTOR (319-759) | 149 |
| 28 | FOLD CONTROL BLOCK HARNESS (304-042) | 150 |
| 29 | VALVE BLOCK AND HARNESS (303-131) | 152 |
| 30 | VALVE BLOCK (302-469) | 153 |
| NS | CONTROL BOX TO CONTROL VALVE OPERATION AND PIN-OUT LOCATION | 154 |
| NS | FOLD HYDRAULIC SYSTEM | 156 |
| NS | LIFT AND DOWN PRESSURE HYDRAULIC SYSTEM | 160 |
| NS | HYDRAULIC HOSE DESCRIPTION | 164 |
| NS | PUMP HYDRAULIC SYSTEM | 166 |
| 31 | LIGHTING | 167 |
| 32 | TOOLBOX CARRIER | 168 |
| NS | INJECTOR AND KNIFE KITS CONTENTS | 169 |



ILLUSTRATED PARTS LIST (CONT'D)

Cart/Main Frame Assembly (Hitch And Jack)



P00698

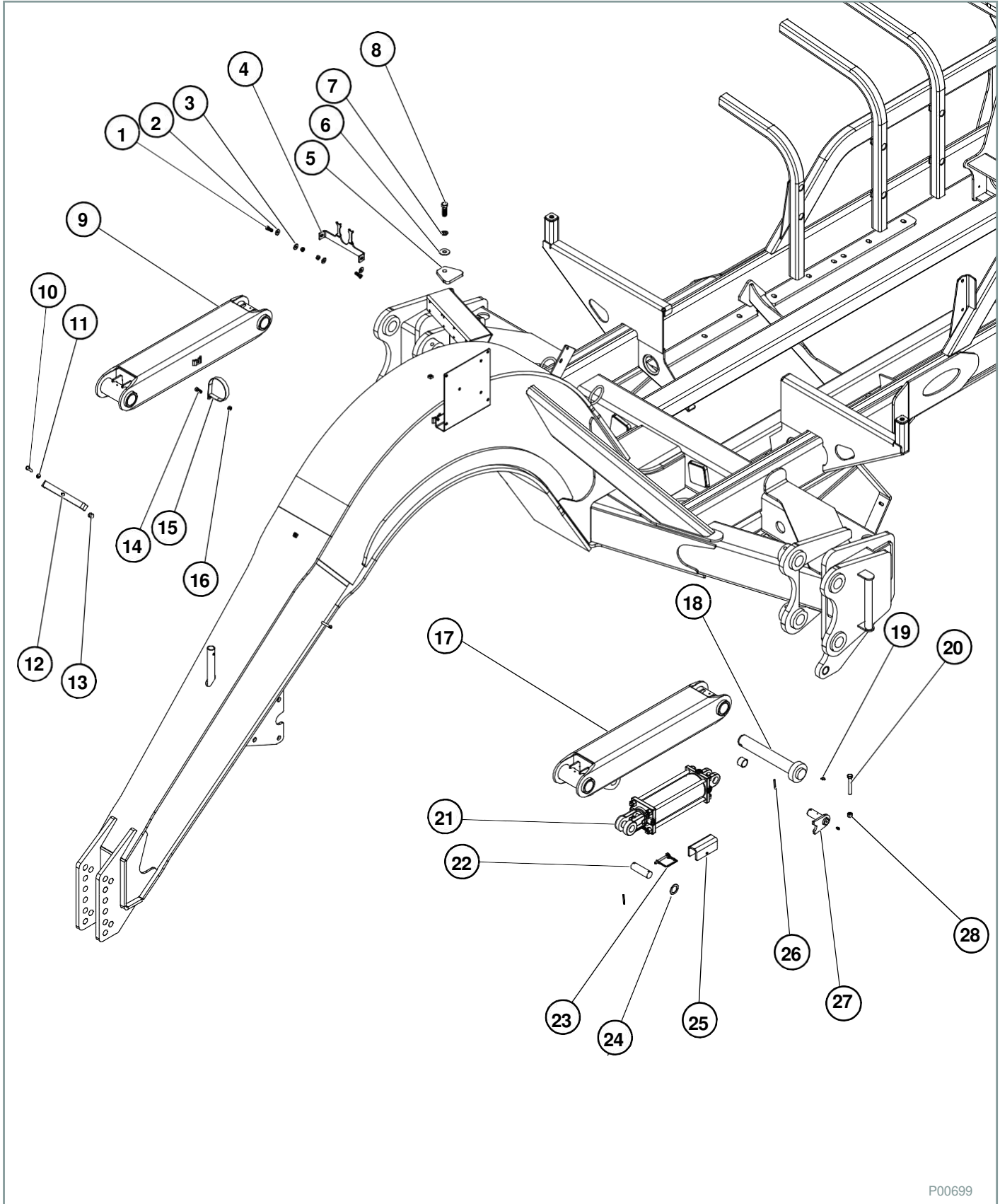
ILLUSTRATED PARTS LIST (CONT'D)

Cart/Main Frame Assembly Cart/Main Frame Assembly (Hitch And Jack) (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|--------------------------------|------|
| 1 | 790040 | HITCH, CAT 4, | 1 |
| 2 | 790040 | INSERT | 1 |
| 3 | 590153M | BOLT, 1 X 6-3/4" GRADE 5 ZP | 2 |
| 4 | 596242M | NUT, CENTERLOCK, 1" ZP | 3 |
| 5 | 596122M | BOLT, 5/16 X 4-1/2" GRADE 5 ZP | 2 |
| 6 | 596228M | NUT, NYLOCK, 5/16" ZP | 2 |
| 7 | 15810 | HOSE HOLDER WELDMENT | 1 |
| 8 | 750048 | MANUAL HOLDER | 1 |
| 9 | 596767M | NUT, WHIZ, 1/4" ZP | 5 |
| 10 | 596256M | 1/4" FLAT WASHER ZP | 5 |
| 11 | 596102M | BOLT, 1/4 X 1" GRADE 5 ZP | 5 |
| 12 | 740018 | LIGHT HARNESS HOLDER | 1 |
| 13 | 707 | ROLL PIN, 3/8 X 2" | 1 |
| 14 | 596262M | WASHER 3/4" ZP | 1 |
| 15 | 683 | ROLL PIN, 1/4 X 1-1/2" | 1 |
| 16 | 15437 | 3/4" LINK PIN | 1 |
| 17 | 15430 | JACK HOLDER WELDMENT | 1 |
| 18 | 596239M | NUT HEX CENTER LOCK 1/2" | 1 |
| 19 | 596164M | BOLT, 1/2 X 7" GRADE 5 ZP | 2 |
| 20 | 710005 | LYNCH PIN, 1/4 X 1-3/4" ZP | 1 |
| 21 | 15440 | PIN, JACK, REMOVABLE | 1 |
| 22 | 790045 | JACK, JOST, 25,000 LB LIFTING | 1 |
| 23 | 596258M | WASHER, 3/8" ZP | 6 |
| 24 | 596131M | BOLT, 3/8 X 2-1/2" GRADE 5 ZP | 1 |
| 25 | 790046 | HANDLE, JOST JACK | 1 |
| 26 | 596237M | NUT, CENTERLOCK, 3/8" ZP | 1 |
| 27 | 590226 | 1 X 3-1/4" GRADE 5 ZP | 1 |
| 28 | 15829 | PLATE, SAFETY CHAIN WASHER | 1 |
| 29 | 15835 | DOM, SAFETY CHAIN SPACER | 1 |
| 30 | 790050 | CHAIN, SAFETY, 30,000 LB | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

Cart/Main Frame Assembly (Parallel Links)



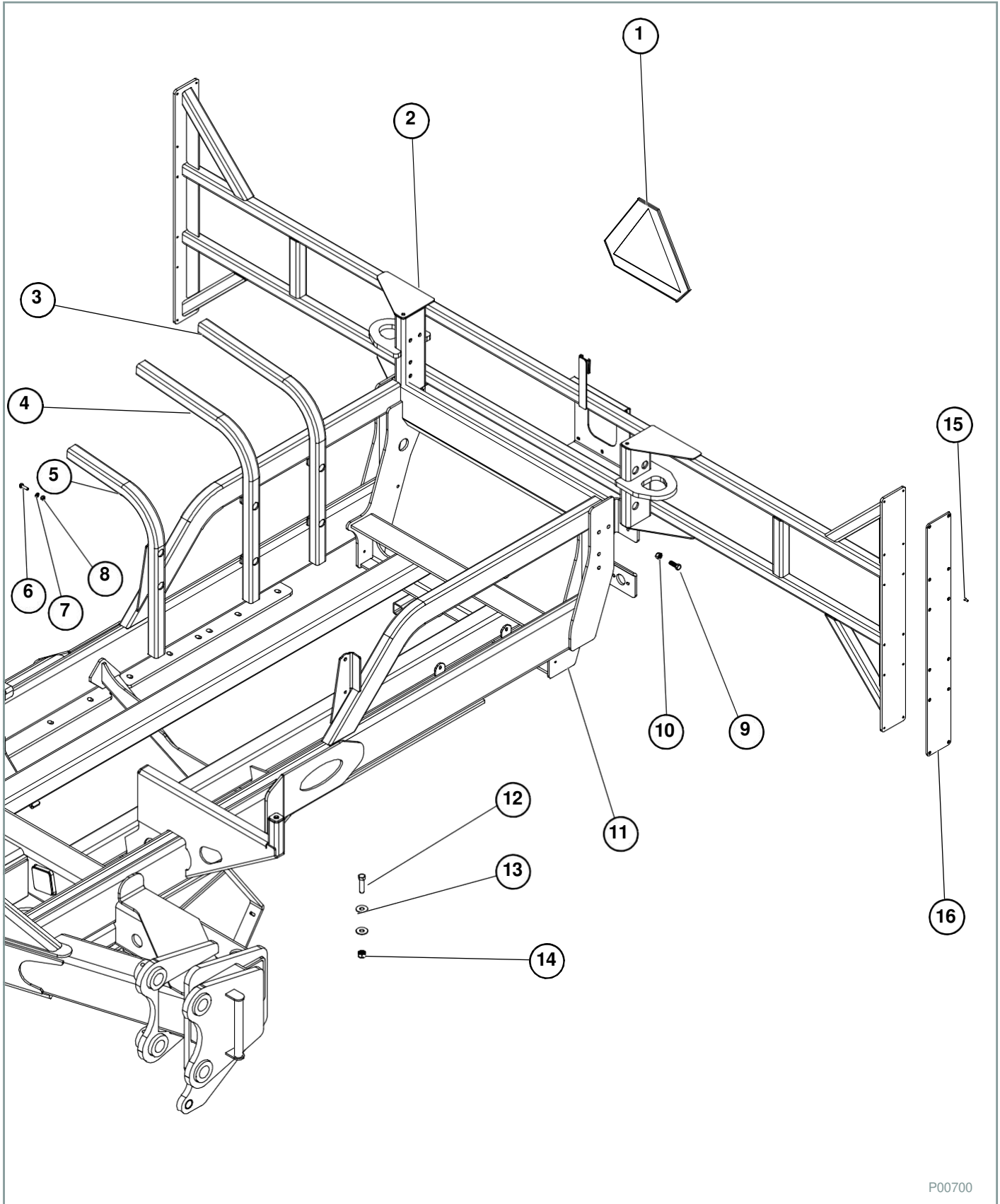
ILLUSTRATED PARTS LIST (CONT'D)

Cart/Main Frame Assembly (Parallel Links) 92FC84PLINK (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|-------------------------------|------|
| 1 | 593115M | BOLT, 5/16 X 1" GRADE 5 ZP | 2 |
| 2 | 596257M | WASHER, 5/16" ZP | 2 |
| 3 | 596236M | NUT, CENTERLOCK, 5/16" ZP | 1 |
| 4 | 18397 | MOUNT, FLOW METER | 1 |
| 5 | 590023 | 1/2" UHMW HOLD DOWN TAB | 2 |
| 6 | 596261M | WASHER, 5/8" ZP | 2 |
| 7 | 596253M | WASHER, LOCK, 5/8" ZP | 2 |
| 8 | 596171M | BOLT, 5/8 X 2-1/2" GRADE 5 ZP | 2 |
| 9 | 15772BLK | UPPER LIFTARM | 2 |
| 10 | 596231M | NUT, NYLOCK, 1/2" ZP | AR |
| 11 | 596250M | WASHER, LOCK, 3/8" ZP | 4 |
| 12 | 15558 | BRACKET, HOSE | 2 |
| 13 | 15566 | TUBE, SPACER | 2 |
| 14 | 596592M | BOLT, 3/8 X 1" GRADE 5 ZP | 2 |
| 15 | 540053 | P-CLAMP, 4" WITH 0.38" HOLE | 2 |
| 16 | 596237M | NUT, 3/8" ZP, CENTERLOCK | 2 |
| 17 | 15756 | LOWER LIFTARM | 2 |
| 18 | 15574 | PIN, LIFTARM CASTING | 4 |
| 19 | 759 | ZERK, 1/4" STRAIGHT PIPE | 10 |
| 20 | 596157M | BOLT, 1/2 X 3-1/2" GRADE 5 ZP | 8 |
| 21 | 620073 | CYLINDER, 4 X 10 | 2 |
| 22 | 15158 | PIN, MAIN LIFT | 2 |
| 23 | 720001 | SNAP PIN | 2 |
| 24 | 590218 | WASHER, 1-1/4" 14GA ZP | 4 |
| 25 | 15159 | 5" CYLINDER STOP | 2 |
| 26 | 750033 | 5MM X 50MM SPRING PIN ZP | 6 |
| 27 | 18445 | ANTI ROTATION PIN | 2 |
| 28 | 596239M | NUT, CENTERLOCK, 1/2" | 2 |
| NS | 590205 | 3/4" CYLINDER STOP | 2 |
| NS | 590206 | 1" CYLINDER STOP | 2 |
| NS | 590207 | 1-1/4" CYLINDER STOP | 2 |
| NS | 590208 | 1-1/2" CYLINDER STOP | 2 |

ILLUSTRATED PARTS LIST (CONT'D)

Cart/Main Frame Assembly (Wing Transport Stops)



P00700

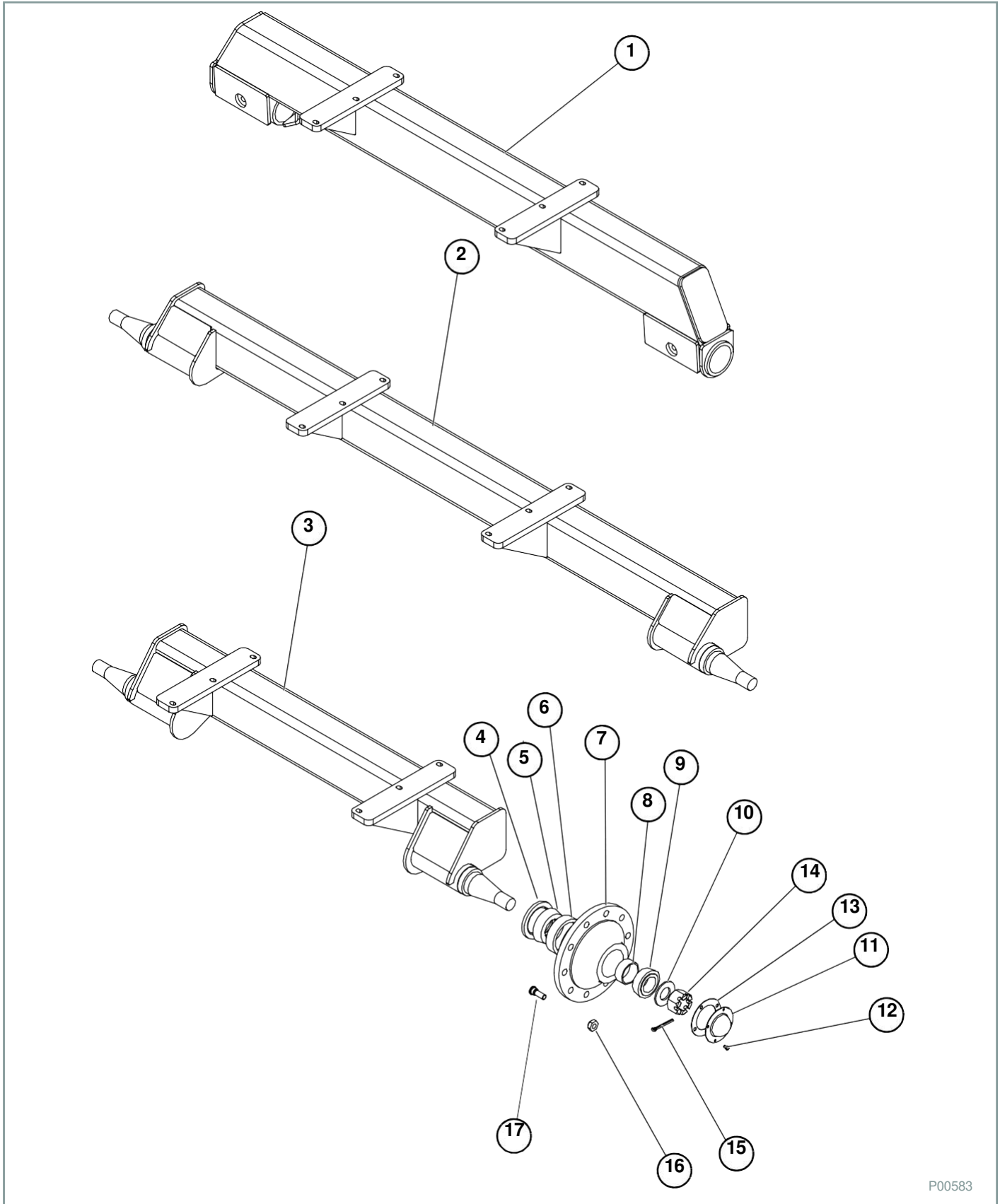
ILLUSTRATED PARTS LIST (CONT'D)

Cart/Main Frame Assembly (Wing Transport Stops) (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|-------------------------------|------|
| 1 | 90SASMV | SMV ASSEMBLY | 1 |
| 2 | 23503 | TRANSPORT STOP 120' | 1 |
| 3 | 18185 | REAR SUPPORT | 2 |
| 4 | 18184 | MIDDLE SUPPORT | 2 |
| 5 | 18183 | FRONT SUPPORT | 2 |
| 6 | 596616M | BOLT HEX HEAD 3/8 X 1-1/4 | 6 |
| 7 | 596258M | WASHER FLAT 3/8 | 6 |
| 8 | 596237M | NUT HEX CENTER LOCK 3/8" | 6 |
| 9 | 596153M | BOLT HEX HEAD 1/2 X 1-1/2 | 8 |
| 10 | 596239M | NUT HEX CENTER LOCK 1/2" | 8 |
| 11 | 23550 | FRAME 8524 120' | 1 |
| 12 | 596171M | BOLT, 5/8 X 2-1/2" GRADE 5 ZP | 6 |
| 13 | 596261M | WASHER, 5/8" ZP | 14 |
| 14 | 596240M | NUT, CENTERLOCK, 5/8" ZP | 6 |
| 15 | 581 | RIVET, 1/4" DRIVE | 24 |
| 16 | 750064 | TRANSPORT RUB PAD | 2 |

ILLUSTRATED PARTS LIST (CONT'D)

Axle Assemblies



P00583

ILLUSTRATED PARTS LIST (CONT'D)

Axle Assemblies (Cont'd)

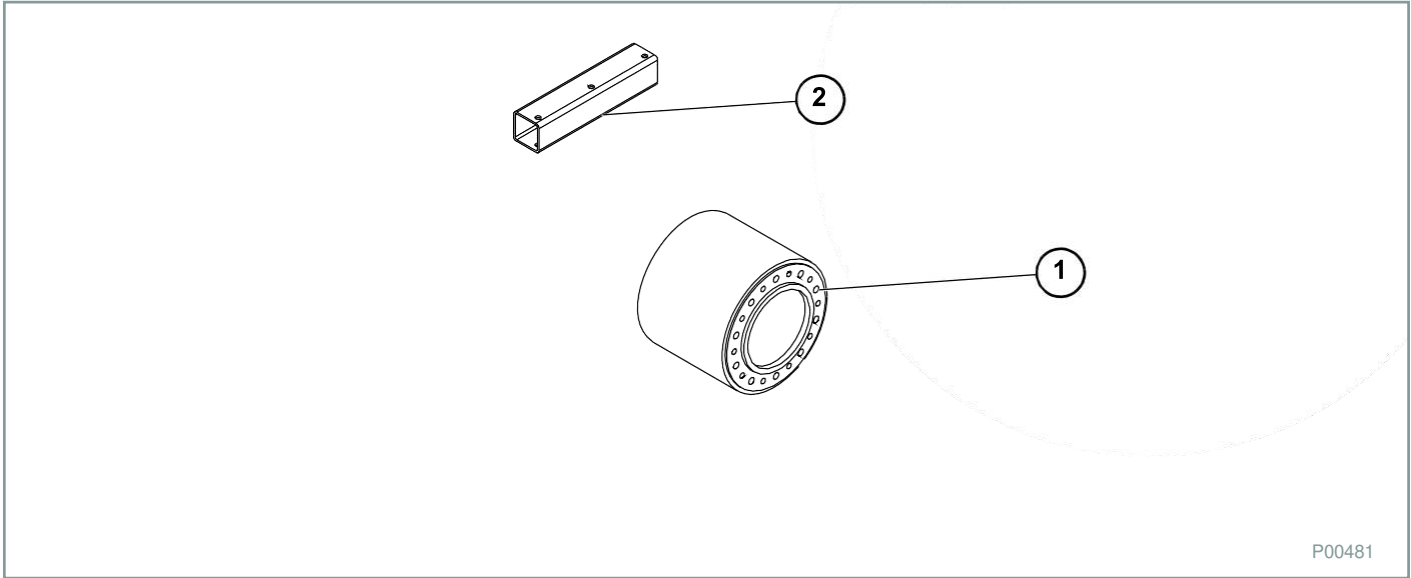
| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|--|------|
| 1 | 21370 | TRACK CROSS BAR CAMSO TRACK | 1 |
| 2* | 18430 | AXLE SINGLE 2400 GALLON 20000# 480/80R50 1.5" OFFSET WHEEL | 1 |
| 3 | 10913 | AXLE, SPACER DUAL, 62 1/2"-120" WHEEL TRACK (OPTIONAL) | 1 |
| | 10910 | AXLE, SPACER DUAL, 80"-120" WHEEL TRACK (OPTIONAL) | |
| | 10907 | AXLE, SPACER DUAL, 88"-132" WHEEL TRACK (OPTIONAL) | |
| 4 | 730041 | SEAL NI906979 | 2 |
| 5 | 730043 | CONE INNER NI910346 | 2 |
| 6 | 730012 | CUP INNER NI910334 | 2 |
| 7 | 730060 | HUB 10 Q881 W/CUPS | 2 |
| 8 | 1679 | CUP OUTER NI910384 | 2 |
| 9 | 730037 | CONE OUTER NI0910347 | 2 |
| 10 | 730040 | WASHER SPINDLE Q9881 | 2 |
| 11 | 730038 | HUB CAP NI909921 | 2 |
| 12 | 113 | BOLT HEX HEAD 5/16 X 1/2 GRADE 5 ZP | 2 |
| 13 | 730061 | GASKET HUB CAP | 2 |
| 14 | 730056 | NUT CASTLE NI913571 | 2 |
| 15 | 730042 | COTTER PIN Q881 HUB | 2 |
| 16 | 730051 | NUT WHEEL NI913571 | 20 |
| 17 | NI953035 | STUD WHEEL NI953035 3/4-16 X 3.5" | 20 |

NOTE: Track assemblies have their own parts and operator's manuals.

* - Axle uses hub parts 4 through 17.

ILLUSTRATED PARTS LIST (CONT'D)

Axle Assembly Options



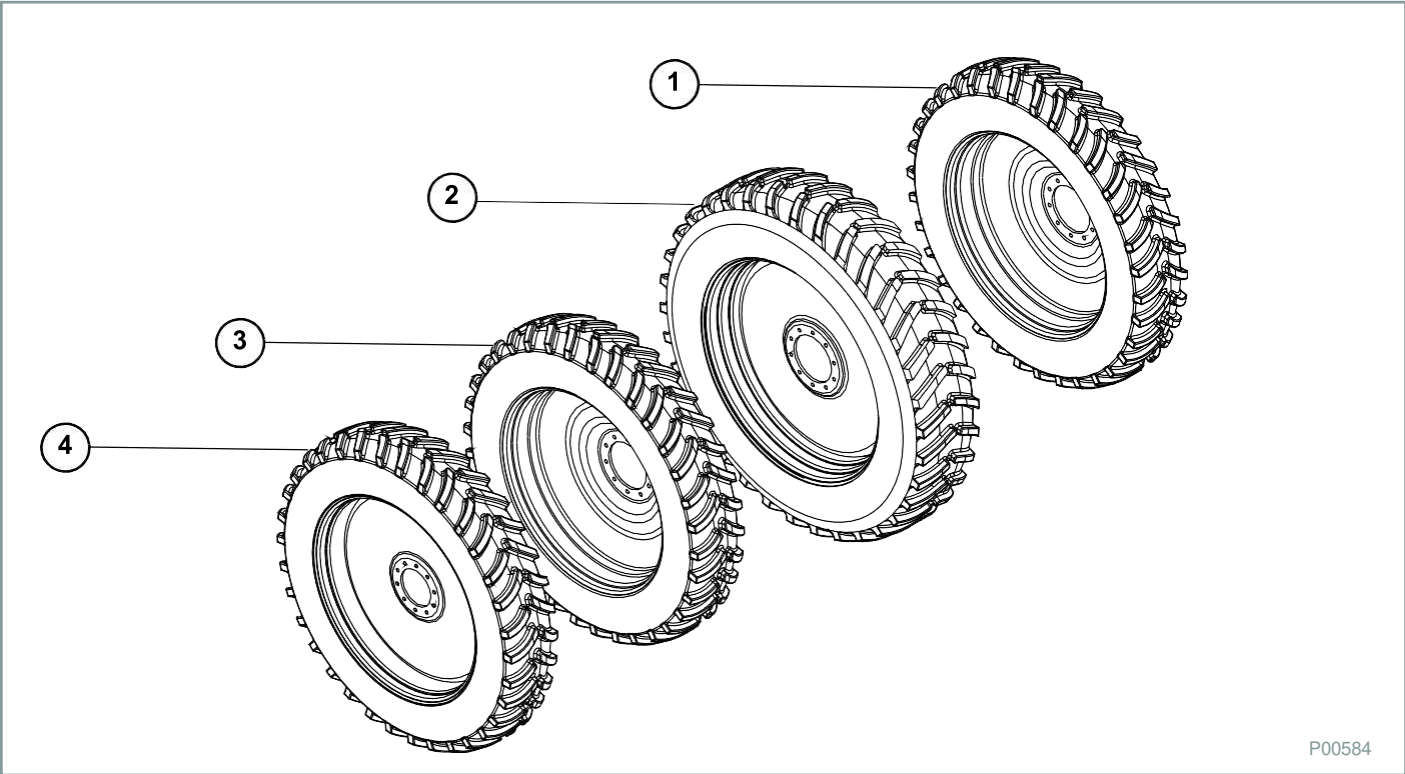
| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|--|------|
| 1 | 710030 | SPACER DUAL 30" ROWS, 13.75" SPACER (OPTIONAL) | 2 |
| | 710032 | SPACER DUAL 22" ROWS, 7" SPACER | |
| | 710031 | SPACER DUAL 20" ROWS, 5" SPACER | |
| NS* | 18435 | AXLE, 88" SPACING, 20,000 LB | 1 |
| | 18416 | AXLE, 132" SPACING, 20,000 LB | |
| 2 | 16457 | AXLE SPACER 54" TIRE | 2 |

* - Axle uses hub parts 4 through 17 on page 81.



ILLUSTRATED PARTS LIST (cont'd)

Tire And Rim



P00584

ILLUSTRATED PARTS LIST (CONT'D)

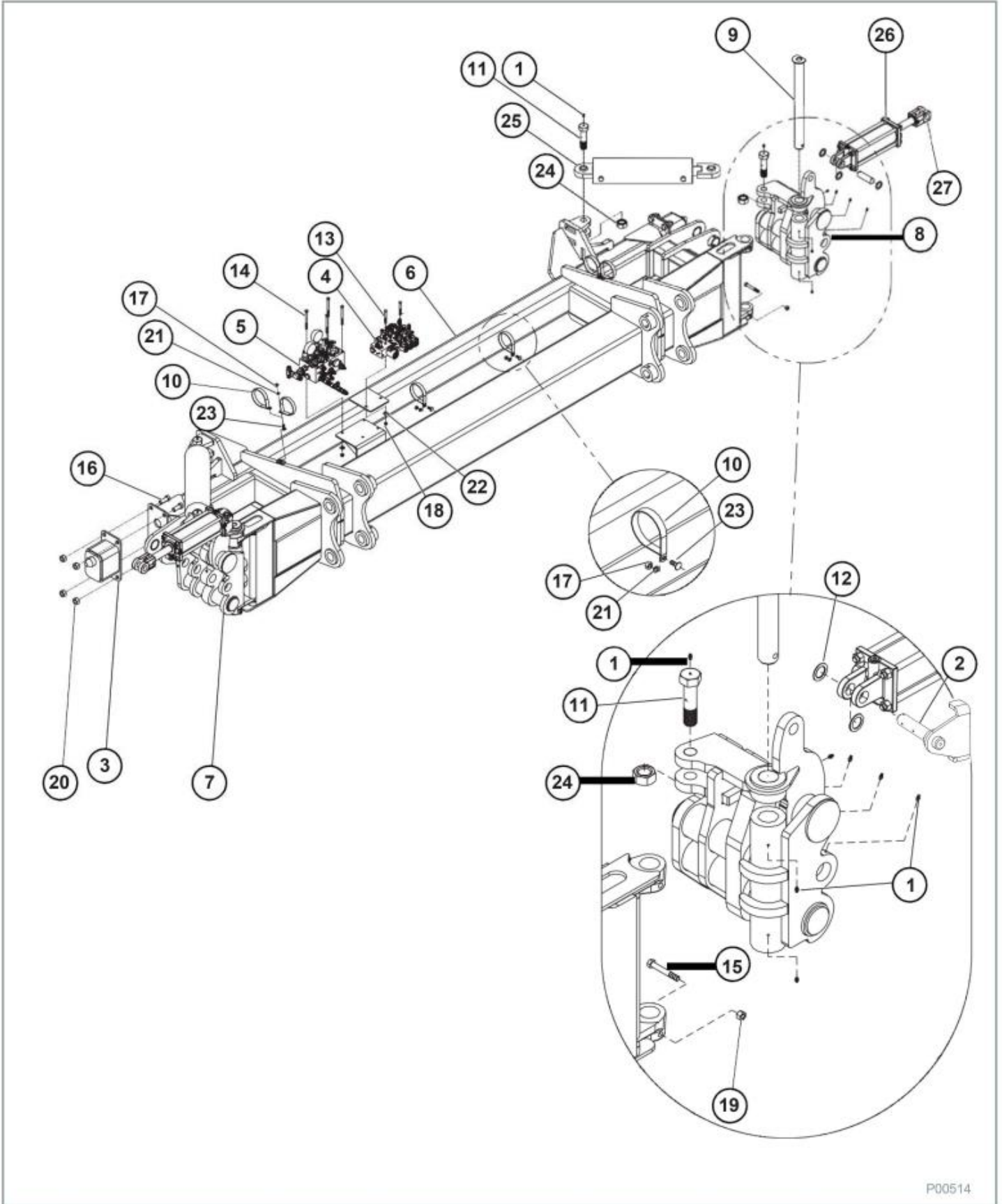
Tire And Rim (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | TIRE PRESSURE | QTY. |
|----------|----------|--|--------------------------------------|------|
| 1 | 700087 | TIRE AND WHEEL 480 / 80R50 LR176 YELLOW LH STD. 2400 GALLON | 73 PSI (5.00 BAR) (545 KPA) | 1 |
| | 700085 | TIRE AND WHEEL 480 / 80R50 LR176 SILVER LH STD. 2400 GALLON | | 1 |
| | 700088 | TIRE AND WHEEL 480 / 80R50 LR176 YELLOW RH STD. 2400 GALLON | | 1 |
| | 700086 | TIRE AND WHEEL 480 / 80R50 LR176 SILVER RH STD. 2400 GALLON | | 1 |
| 2 | 700124 | TIRE AND WHEEL 380 / 90R54 LR170 YELLOW LH OPTIONAL | 75 PSI (5.17 BAR) (517 KPA) | 1 |
| | 700126 | TIRE AND WHEEL 380 / 90R54 LR170 SILVER LH OPTIONAL | | 1 |
| | 700125 | TIRE AND WHEEL 380 / 90R54 LR170 YELLOW RH OPTIONAL | | 1 |
| | 700127 | TIRE AND WHEEL 380 / 90R54 LR170 SILVER RH OPTIONAL | | 1 |
| 3 | 700135 | TIRE AND WHEEL 380 / 90R46 LR149 YELLOW DUAL LH OPTIONAL | 255 KPA (2.55 BAR) (37 PSI) INNER | 1 |
| | 700139 | TIRE AND WHEEL 380 / 90R46 LR149 SILVER DUAL LH OPTIONAL | | 1 |
| | 700136 | TIRE AND WHEEL 380 / 90R46 LR149 YELLOW DUAL RH OPTIONAL | 227 KPA (2.28 BAR) (33 PSI) OUTER | 1 |
| | 700140 | TIRE AND WHEEL 380 / 90R46 LR149 SILVER DUAL RH OPTIONAL | | 1 |
| 4 | 700137 | TIRE AND WHEEL 380 / 90R54 LR152 YELLOW DUAL LH OPTIONAL | 255 KPA (2.55 BAR) (37 PSI) INNER | 1 |
| | 700141 | TIRE AND WHEEL 380 / 90R54 LR152 SILVER DUAL LH OPTIONAL | | 1 |
| | 700138 | TIRE AND WHEEL 380 / 90R54 LR152 YELLOW DUAL RH OPTIONAL | 227 KPA (2.28 BAR) (33 PSI) OUTER | 1 |
| | 700142 | TIRE AND WHEEL 380 / 90R54 LR152 SILVER DUAL RH OPTIONAL | | 1 |

NOTE: Tire pressure is directly linked to LRXXX (bold italic). Make sure of the load rating of the tire before adding any air to the tire.

ILLUSTRATED PARTS LIST (CONT'D)

Center Wing Assembly



P00514

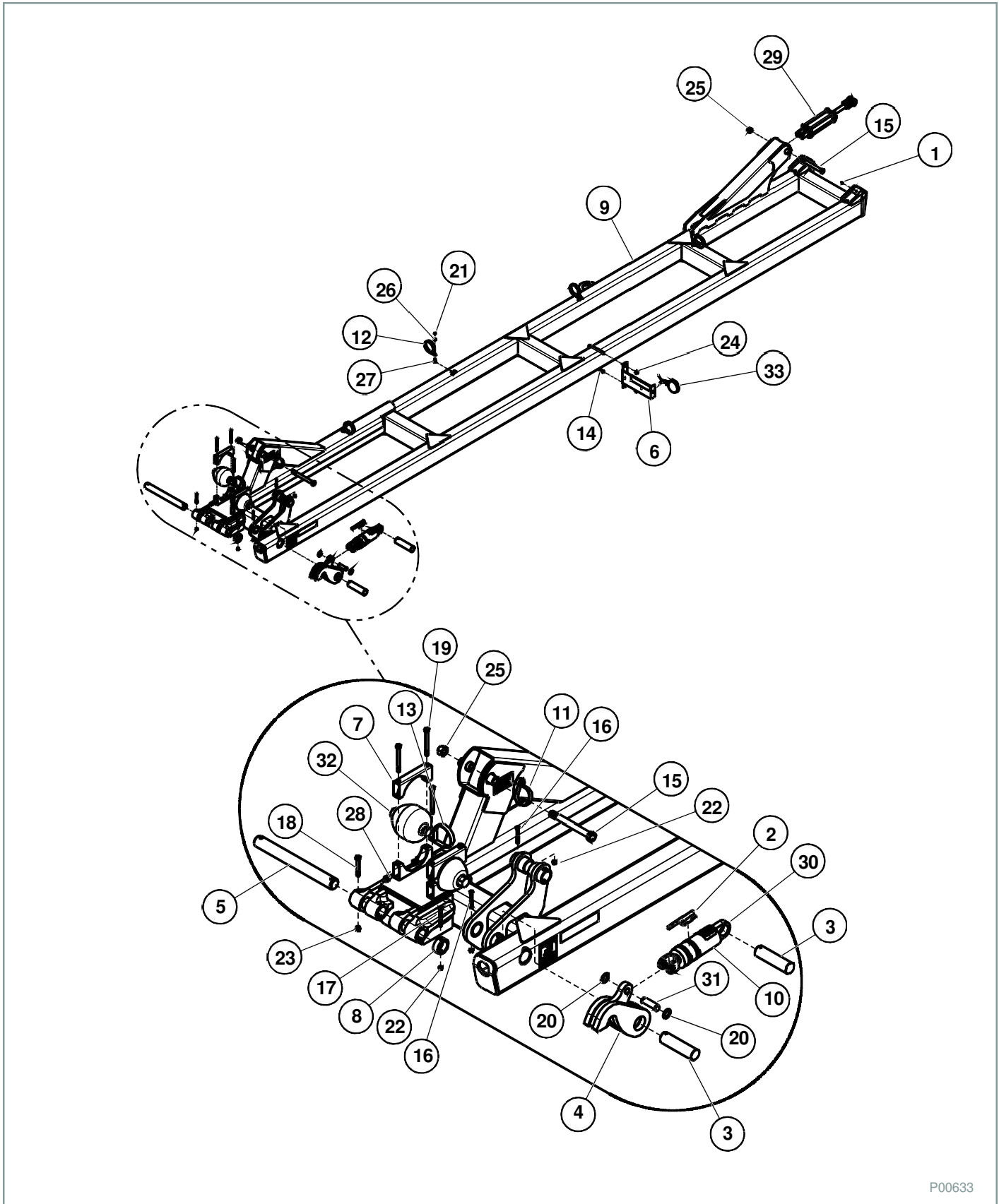
ILLUSTRATED PARTS LIST (CONT'D)

Center Wing Assembly (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|-----------------------------------|------|
| 1 | 759 | ZERK, 1/4-28 STRAIGHT | 16 |
| 2 | 23385 | PIN, MAIN LIFT | 2 |
| 3 | 15560 | ADJUSTABLE WING STOP | 2 |
| 4 | 15849 | 90' FOLD VALVE WITH FITTINGS | 1 |
| 5 | 15850 | 90' LIFT ASSIST BLOCK | 1 |
| 6 | 23485 | WELDMNT, CENTER SECTION 120 | 1 |
| 7 | 23422L | FLEX HINGE WELDMENT | 1 |
| 8 | 23422R | FLEX HINGE WELDMENT | 1 |
| 9 | 23476 | VERTICAL FLEX HINGE PIN | 2 |
| 10 | 540053 | P-CLAMP, 4" W/ 3/8" HOLE | 6 |
| 11 | 590183 | BOLT, 1-1/4" X 5" MACHINED | 4 |
| 12 | 590218 | WASHER, 1-1/4" 14GA ZP | 6 |
| 13 | 596132M | BOLT, HH 3/8-16 X 3 GR5 MAGNI | 2 |
| 14 | 596135M | BOLT, HH G5 3/8 X 4-1/2 MAGNI | 4 |
| 15 | 596157M | BOLT, HH 1/2X3-1/2 GR5 MAGNI | 2 |
| 16 | 596184M | BOLT, HH 3/4X2 GR5 MAGNI | 8 |
| 17 | 596237M | NUT, HEX 3/8-16 MAGNI | 4 |
| 18 | 596239M | NUT, CENTERLOCK 3/8 MAGNI | 6 |
| 19 | 596241M | NUT, CENTERLOCK, 1/2-13 MAGNI | 2 |
| 20 | 596250M | NUT, CENTERLOCK 3/4-10 MAGNI | 8 |
| 21 | 759 | LOCKWASHER 3/8 MAGNI | 4 |
| 22 | 596258M | WASHER, FLAT 3/8 MAGNI | 6 |
| 23 | 596592M | BOLT, CARRIAGE, 3/8-16 X 1" MAGNI | 4 |
| 24 | 596724M | NUT, CENTERLOCK, 1-1/4" MAGNI | 4 |
| 25 | 620046 | FOLD CYLINDER | 2 |
| 26 | 620073 | 4 X 10 CYLINDER | 2 |
| 27 | 620086 | CLEVIS ADI HARPENED | 2 |

ILLUSTRATED PARTS LIST (cont'd)

Inner Wing Assembly (Left And Right)



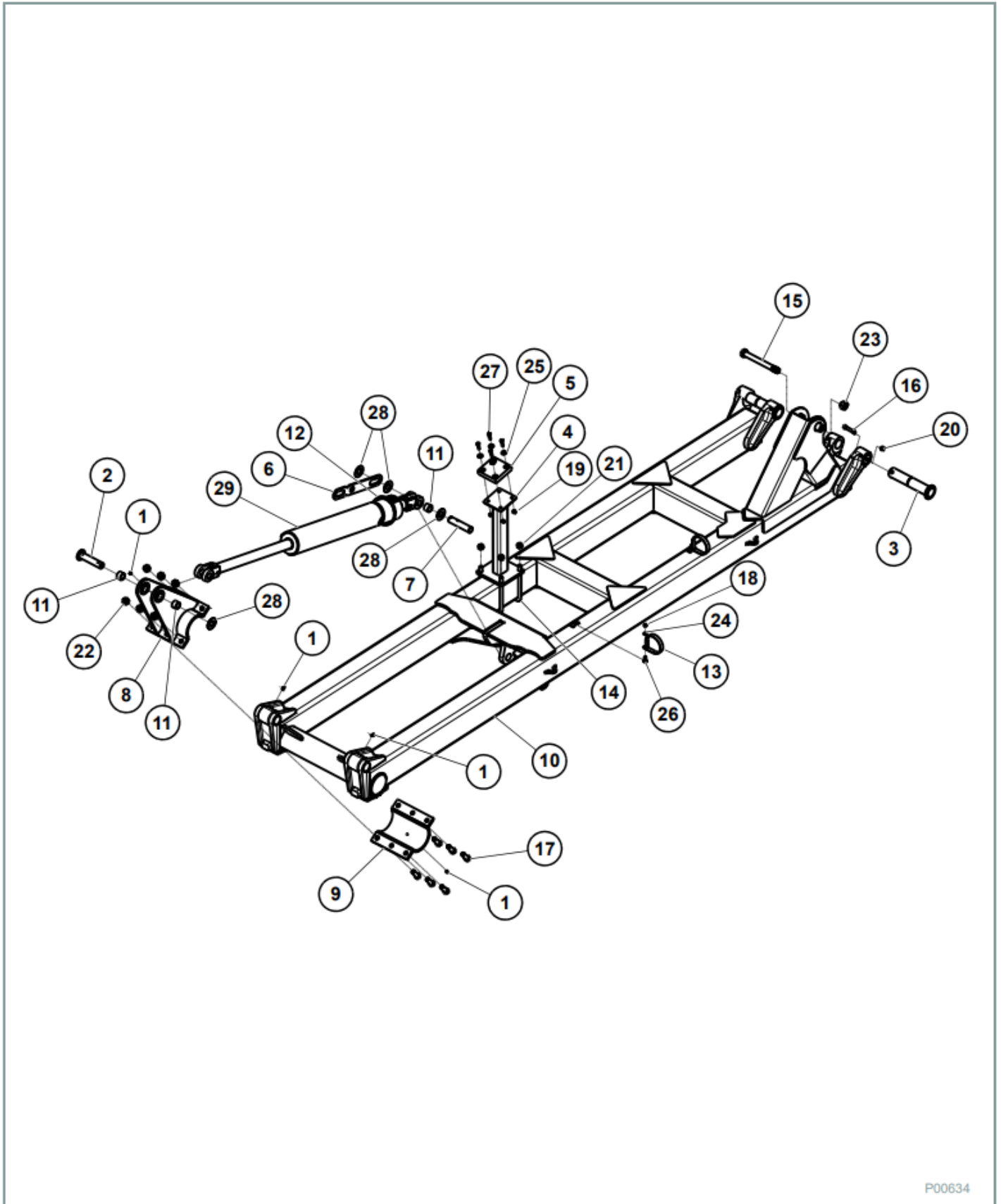
P00633

ILLUSTRATED PARTS LIST (CONT'D)
Inner Wing Assembly (Left And Right) (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|------------------------------------|------|
| 1 | 759 | ZERK, 1/4-28 STRAIGHT | 2 |
| 2 | 15505 | PLATE, PROX SENSOR | 1 |
| 3 | 15585 | PIN, WING LATCH | 2 |
| 4 | 15630 | LATCH WLDMNT | 1 |
| 5 | 15791 | PIN, MAIN ATTACH | 1 |
| 6 | 15816 | PLATE, LIGHT MOUNT | 1 |
| 7 | 16654 | TUBE, ACCUMULATOR MOUNT | 2 |
| 8 | 17209 | TUBE, 2" COLLAR | 1 |
| 9 | 23413L | MAIN WING WLDMT | 1 |
| | 23413R | MAIN WING WLDMT (NS) | 1 |
| 10 | 540020 | CLAMP, 3-1/2" SS | 2 |
| 11 | 540052 | P-CLAMP, 3" W/ 3/8" HOLE | 1 |
| 12 | 540053 | P-CLAMP, 4" W/ 3/8" HOLE | 4 |
| 13 | 540054 | P-CLAMP, 4" W/ 1/2" HOLE | 1 |
| 14 | 590061 | U-BOLT, 5/8 X 7-1/16" X 6-1/2", ZP | 1 |
| 15 | 590225 | BOLT, 1 X 9.25", GR8 ZP | 2 |
| 16 | 596132M | BOLT, HH 3/8-16 X 3 GR5 MAGNI | 2 |
| 17 | 569133M | BOLT, HH G5 3/8 X 3-1/2 MAGNI | 1 |
| 18 | 596157M | BOLT, HH 1/2X3-1/2 GR5 MAGNI | 1 |
| 19 | 596160M | BOLT, HH 1/2X5 GR5 MAGNI | 4 |
| 20 | 596179M | BUSHING, MACHINED 1" X 14GA MAGNI | 2 |
| 21 | 596213M | NUT, HEX 3/8-16 MAGNI | 5 |
| 22 | 596237M | NUT, CENTERLOCK 3/8 MAGNI | 3 |
| 23 | 596239M | NUT, CENTERLOCK, 1/2-13 MAGNI | 1 |
| 24 | 596240M | NUT, CENTERLOCK, 5/8-11 MAGNI | 2 |
| 25 | 596242M | NUT, CENTERLOCK, 1" MAGNI | 2 |
| 26 | 596250M | LOCKWASHER 3/8 MAGNI | 5 |
| 27 | 596592M | BOLT, CARR., 3/8-16 X 1" MAGNI | 5 |
| 28 | 596771M | NUT, HEX FLANGE 1/2-13 MAGNI | 4 |
| 29 | 620009 | 3" X 8" CYLINDER | 1 |
| 30 | 620026 | CYL, WING LATCH | 1 |
| 31 | 620072 | PIN, CYLINDER, 1 X 3-3/8" | 1 |
| 32 | 630020 | ACCUMULATOR, 85 CU. | 2 |
| 33 | 740024 | LIGHT, AMBER, PED. MOUNT | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

Mid Wing Assembly (Left And Right)



P00634

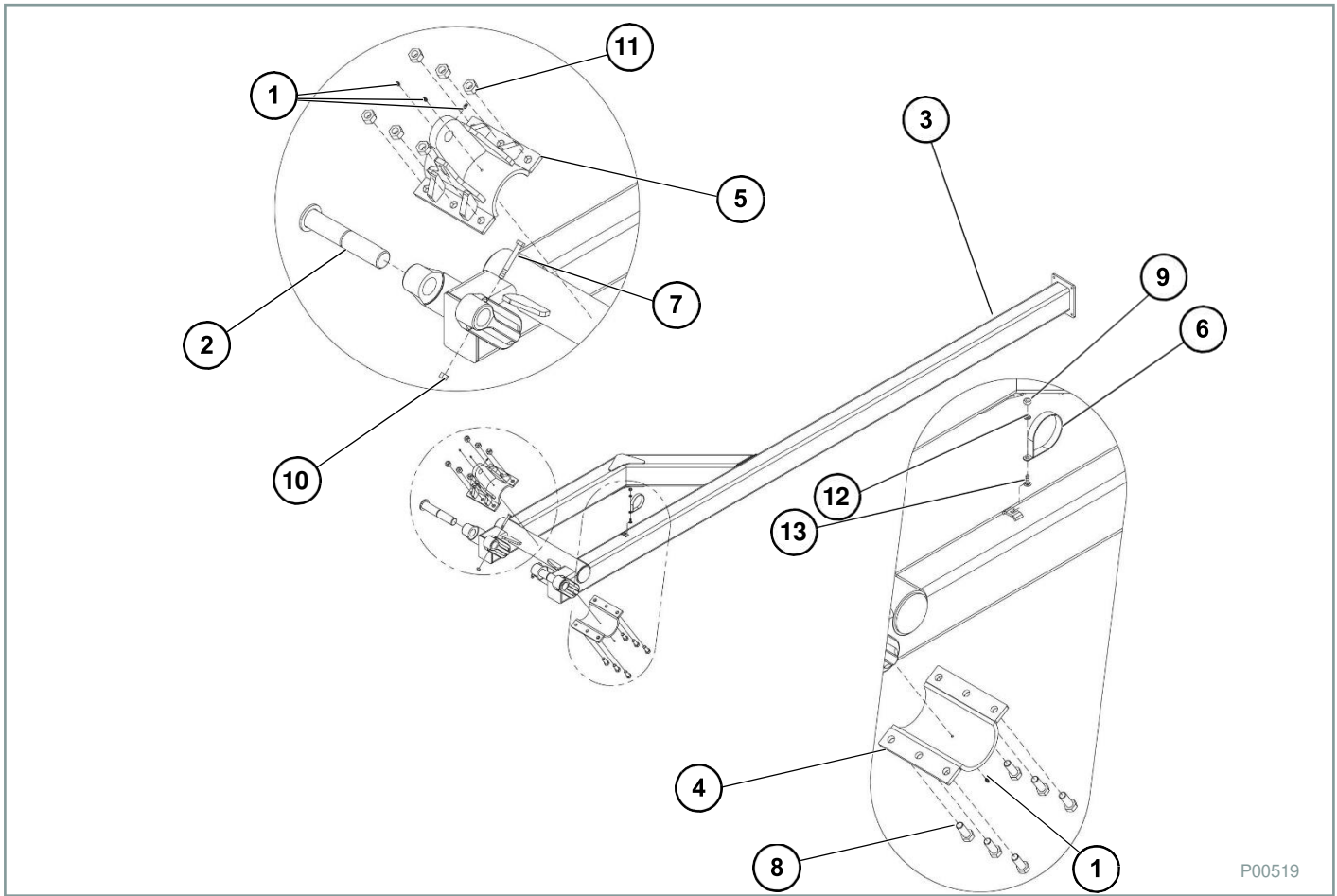
ILLUSTRATED PARTS LIST (CONT'D)

Mid Wing Assembly (Left And Right) (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|--------------------------------|------|
| 1 | 759 | ZERK, 1/4-28 STRAIGHT | 5 |
| 2 | 15559 | FLIP CYL PIN WLDMT | 1 |
| 3 | 15653 | FLIP HINGE PIN WLDMT | 2 |
| 4 | 15660 | BOLT ON WING REST | 1 |
| 5 | 15669 | RUBBER BUMPER | 1 |
| 6 | 15857 | PLATE, CYLINDER ANTI ROTATE | 1 |
| 7 | 15859 | ANTI ROTATE PIN | 1 |
| 8 | 15926 | FLIP LINKAGE WLDMT | 1 |
| 9 | 15930 | LINKAGE BASE WLDMT | 1 |
| 10 | 23415L | LH 120' INTER. WING | 1 |
| | 23415R | RH 120' INTER. WING (NS) | 1 |
| 11 | 530291 | BUSHING, 1 1/4" I.D. X 1" LG | 3 |
| 12 | 540021 | CLAMP, 4 1/8 - 7" | 1 |
| 13 | 540053 | P-CLAMP, 4" W/3/8" HOLE | 2 |
| 14 | 590177 | U-BOLT 5X7X5/8, MAGNI | 2 |
| 15 | 590225 | BOLT, 1 X 9.25", GR8 ZP | 1 |
| 16 | 596158M | BOLT, HH 1/2X4 GR5 MAGNI | 2 |
| 17 | 596184M | BOLT, HH 3/4X2 GR5 MAGNI | 6 |
| 18 | 596213M | NUT, HEX 3/8-16 MAGNI | 2 |
| 19 | 596237M | NUT, CENTERLOCK 3/8 MAGNI | 4 |
| 20 | 596239M | NUT, CENTERLOCK, 1/2-13 MAGNI | 2 |
| 21 | 596240M | NUT, CENTERLOCK, 5/8-11 MAGNI | 4 |
| 22 | 596241M | NUT, CENTERLOCK 3/4-10 MAGNI | 6 |
| 23 | 596242M | NUT, CENTERLOCK, 1" MAGNI | 1 |
| 24 | 596250M | LOCKWASHER 3/8 MAGNI | 2 |
| 25 | 596258M | WASHER, FLAT 3/8 MAGNI | 4 |
| 26 | 596592M | BOLT, CARR., 3/8-16 X 1" MAGNI | 2 |
| 27 | 596635M | BOLT, HH 3/8-16 X 1-1/4 MAGNI | 4 |
| 28 | 596744M | BUSHING, MACHINED, 1-1/4 ID | 4 |
| 29 | 620027 | CYLINDER, FLIP WING | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

Outer Wing Assembly (Left And Right)



ILLUSTRATED PARTS LIST (CONT'D)

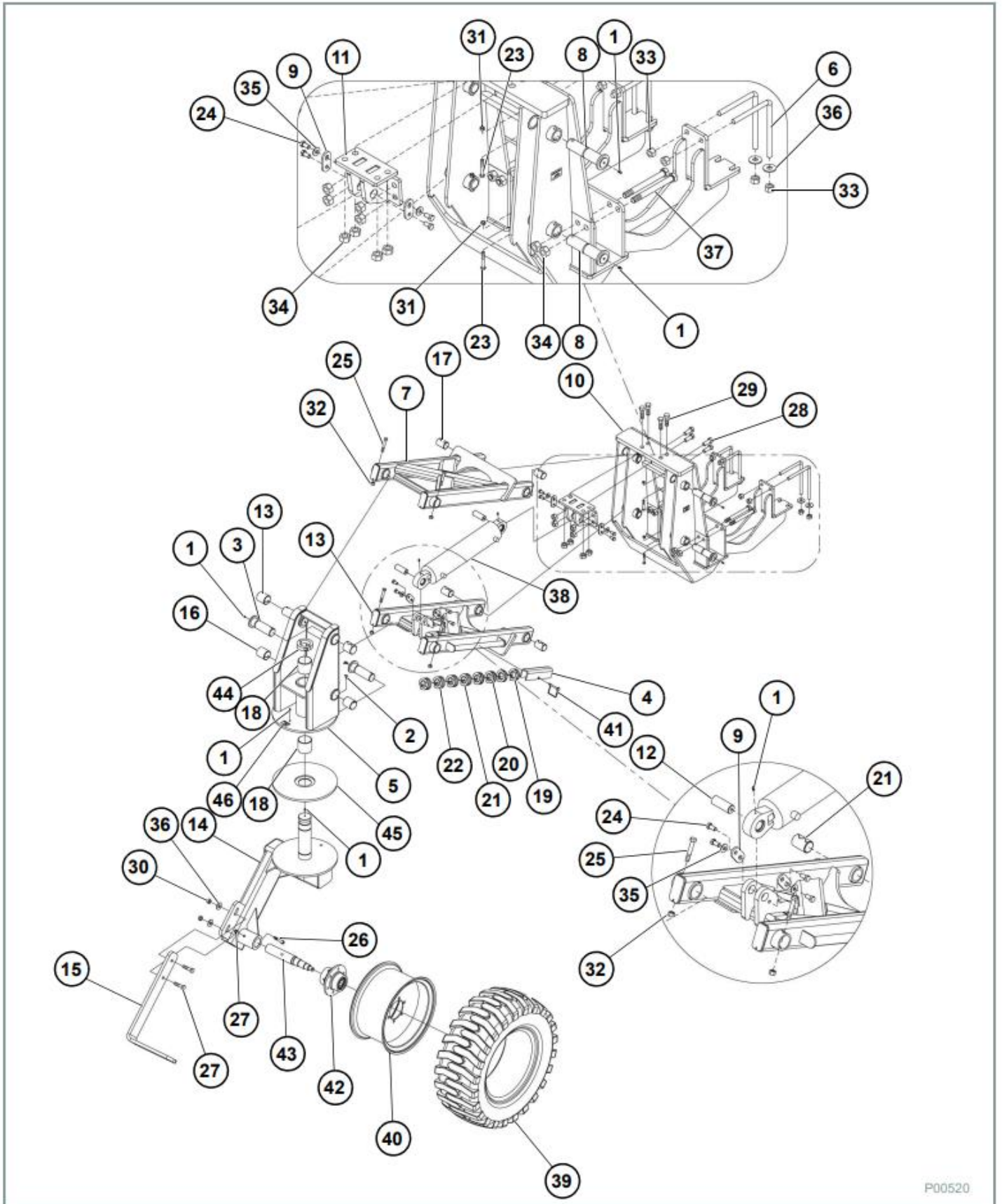
Outer Wing Assembly (Left And Right) (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|--|------|
| 1 | 759 | ZERK, 1/4-28 STRAIGHT | 4 |
| 2 | 15653 | WLDMT, FLIP HINGE PIN | 2 |
| 3 | 15870L | WLDMT, LH FLIP WING | 1 |
| | 15880R | WLDMT, RH FLIP WING 80 FT.(NS) | 1 |
| 4 | 15930 | WLDMT, LINKAGE BASE | 1 |
| 5 | 15935 | WLDMT, FLIP LINKAGE | 1 |
| 6 | 540053 | P-CLAMP, 4" W/3/8" HOLE | 1 |
| 7 | 596158M | BOLT, HH 1/2X4 GR5 MAGNI | 1 |
| 8 | 596184M | BOLT, HH 3/4X2 GR5 MAGNI | 6 |
| 9 | 596213M | NUT, HEX 3/8-16 MAGNI | 1 |
| 10 | 596239M | NUT, CENTERLOCK, 1/2-13 MAGNI | 2 |
| 11 | 596241M | NUT, CENTERLOCK 3/4-10 MAGNI | 6 |
| 12 | 596250M | LOCKWASHER 3/8 MAGNI | 1 |
| 13 | 596592M | BOLT, CARRIAGE, 3/8-16 X 1" MAGNI | 1 |
| NS | 15380 | WING EXTENSION 20" (37 COULTER 30"SP 90' & 33 COULTER 30"SP 80' BAR) | 1 |
| NS | 596453M | BOLT, HEX HEAD 1/2 X 1-1/2 GR5 | 4 |
| NS | 596239M | NUT, CENTERLOCK 1/2" | 4 |

P00520

ILLUSTRATED PARTS LIST (CONT'D)

Lift Assist And Swivel Wheel Assembly



P00520

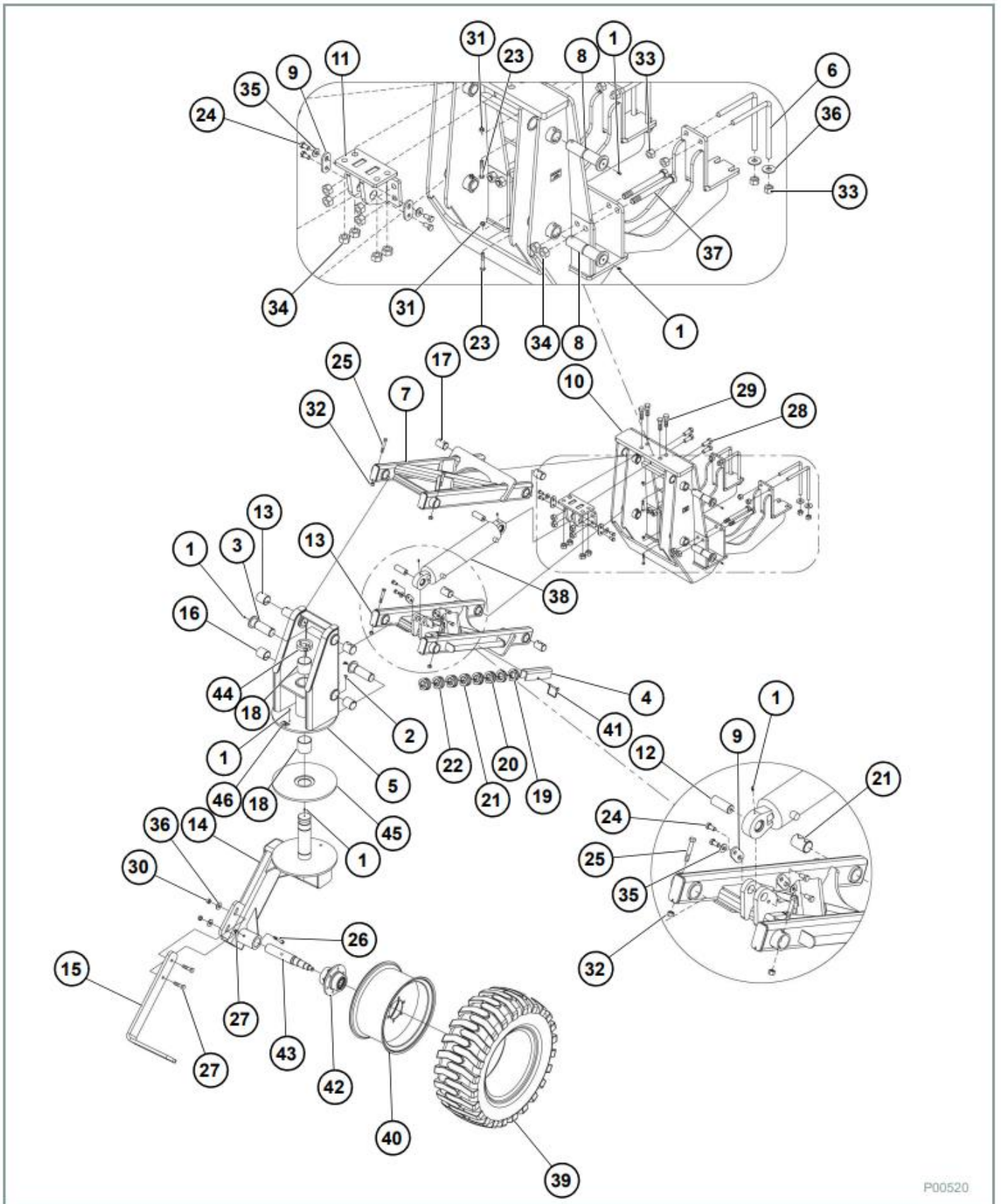
ILLUSTRATED PARTS LIST (CONT'D)

Lift Assist And Swivel Wheel Assembly (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|---------------------------------|------|
| 1 | 759 | ZERK, 1/4-28 STRAIGHT | 11 |
| 2 | 761 | ZERK, 90~, 1/4" STRAIGHT PIPE | 3 |
| 3 | 15737 | PIN, LIFT ASSIST, WLDMT | 4 |
| 4 | 15771 | 9" CYLINDER STOP | 1 |
| 5 | 15861 | LIFT, FRONT WLDMT | 1 |
| 6 | 15969 | L-BOLT, 5/8-11 | 4 |
| 7 | 23432 | LINKAGE, UPPER WLDMT | 1 |
| 8 | 15993 | PIN, LINKAGE, WLDMT | 4 |
| 9 | 15998 | PLATE, PIN END | 4 |
| 10 | 23440 | LIFT ASSIST MOUNT, WLDMT | 1 |
| 11 | 23444 | CYL BASE END MOUNT, WLDMT | 1 |
| 12 | 23447 | PIN, LIFT ASSIST ROD | 2 |
| 13 | 23448 | LINKAGE, LOWER, WLDMT | 1 |
| 14 | 23450 | CASTER ARM, WLDMT | 1 |
| 15 | 23774 | BRACKET, SCRAPER | 1 |
| 16 | 530351 | BUSHING, CONNEX SPRING, 2.25 | 4 |
| 17 | 530352 | BUSHING, CONNEX SPRING, 1.75 | 4 |
| 18 | 530353 | BUSHING, CONNEX 3IDX3LG | 2 |
| 19 | 590205 | 3/4" CYLINDER STOP | 2 |
| 20 | 590206 | 1" CYLINDER STOP | 2 |
| 21 | 590207 | 1-1/4" CYLINDER STOP | 2 |
| 22 | 590208 | 1-1/2" CYLINDER STOP | 2 |
| 23 | 596131M | BOLT, HH 3/8-16X2-1/2 GR5 MAGNI | 4 |

ILLUSTRATED PARTS LIST (CONT'D)

Lift Assist And Swivel Wheel Assembly (Cont'd)



P00520

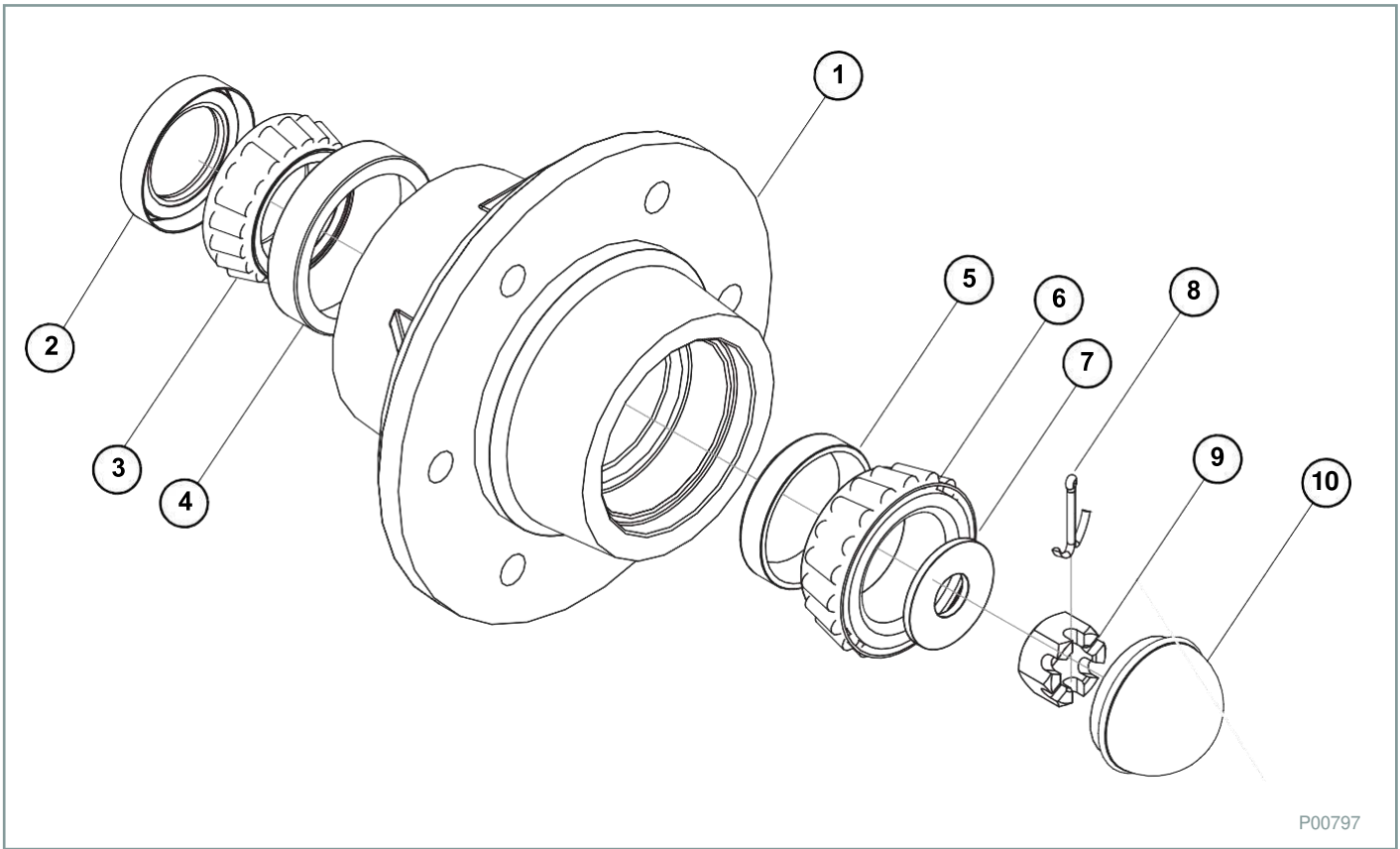
ILLUSTRATED PARTS LIST (CONT'D)

Lift Assist And Swivel Wheel Assembly (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|---|------|
| 24 | 596152M | BOLT, HH 1/2X1 GR5 MAGNI | 8 |
| 25 | 596156M | BOLT, HH 1/2X3-1/2 GR5 MAGNI | 4 |
| 26 | 596158M | BOLT, HH 1/2X4 GR5 MAGNI | 1 |
| 27 | 596171M | BOLT, HH 5/8-11X2.5 GR5 MAGNI | 2 |
| 28 | 596184M | BOLT, HH 3/4X2 GR5 MAGNI | 4 |
| 29 | 596185M | BOLT, HH 3/4-10X2-1/2 MAGNI | 4 |
| 30 | 596232M | NUT, HEX NYLOCK 5/8-11 MAGNI | 2 |
| 31 | 596237M | NUT, CENTERLOCK 3/8 MAGNI | 4 |
| 32 | 596239M | NUT, CENTERLOCK, 1/2-13 MAGNI | 5 |
| 33 | 596240M | NUT, CENTERLOCK, 5/8-11 MAGNI | 8 |
| 34 | 596241M | NUT, CENTERLOCK 3/4-10 MAGNI | 16 |
| 35 | 596260M | WASHER, FLAT 1/2 MAGNI | 4 |
| 36 | 596261M | WASHER, FLAT 5/8 MAGNI | 6 |
| 37 | 596486M | BOLT, HH 3/4-10 X 7-1/2 MAGNI | 8 |
| 38 | 620083 | CYLINDER, CASTER LIFT MAIN WING EXTENSION | 1 |
| NS | 620084 | CYLINDER MAIN WING LIFT | 1 |
| 39 | 700101 | TIRE, LIFT ASSIST | 1 |
| 40 | 700156 | RIM, 16.5X9.75 DUP 6 HOLES | 1 |
| 41 | 720001 | PIN, SNAP, 5/16 | 1 |
| 42 | 730098 | HUB, 6 BOLT | 1 |
| 43 | 730099 | SPINDLE, 6 BOLT HUB, 6,000 LB CAP | 1 |
| 44 | 750041 | CLAMP, BOLT-ON, 2.5"ID | 1 |
| 45 | 750044 | PLATE, BEARING | 1 |
| 46 | 800014 | DECAL, GREASE PIVOT POINTS | 3 |
| NS | 730097 | FLANGE LUG BOLT 9/16-18 | 6 |

ILLUSTRATED PARTS LIST (CONT'D)

Six Bolt Hub Assembly



P00797

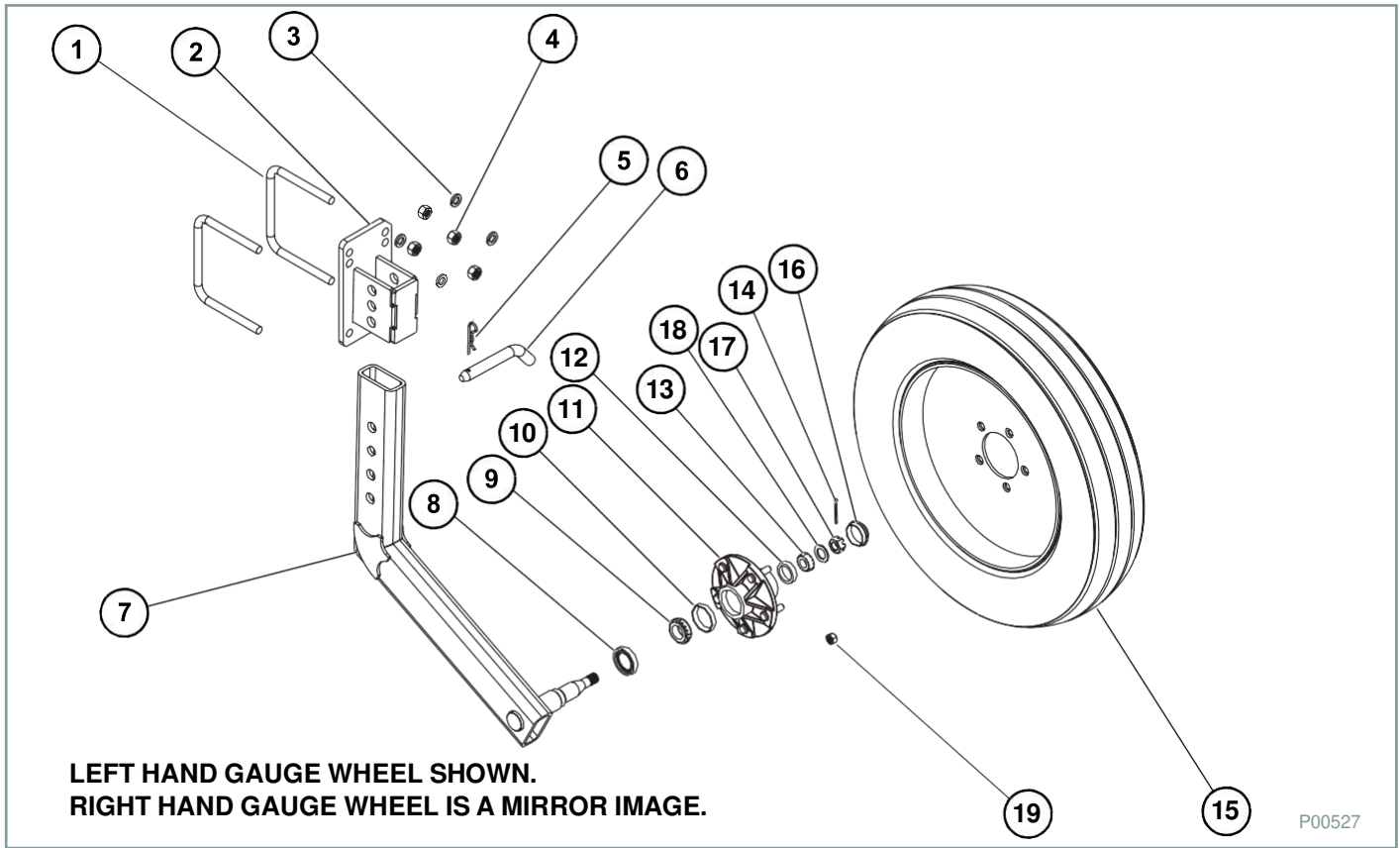
| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|---------------------|------|
| 1* | 730098 | HUB COMPLETE | 1 |
| 2 | 730031 | SEAL | 1 |
| 3 | 730021 | CONE INNER LM501310 | 1 |
| 4 | 730057 | CUP INNER LM501310 | 1 |
| 5 | NI67010 | CUP OUTER | 1 |
| 6 | 730032 | CONE OUTER LM67048 | 1 |
| 7 | 730034 | WASHER | 1 |
| 8 | 730033 | COTTER PIN | 1 |
| 9 | 730088 | NUT | 1 |
| 10 | 730044 | HUB CAP | 1 |

* - Complete Hub contains Items 2 through 10.



ILLUSTRATED PARTS LIST (CONT'D)

Gauge Wheel Assembly



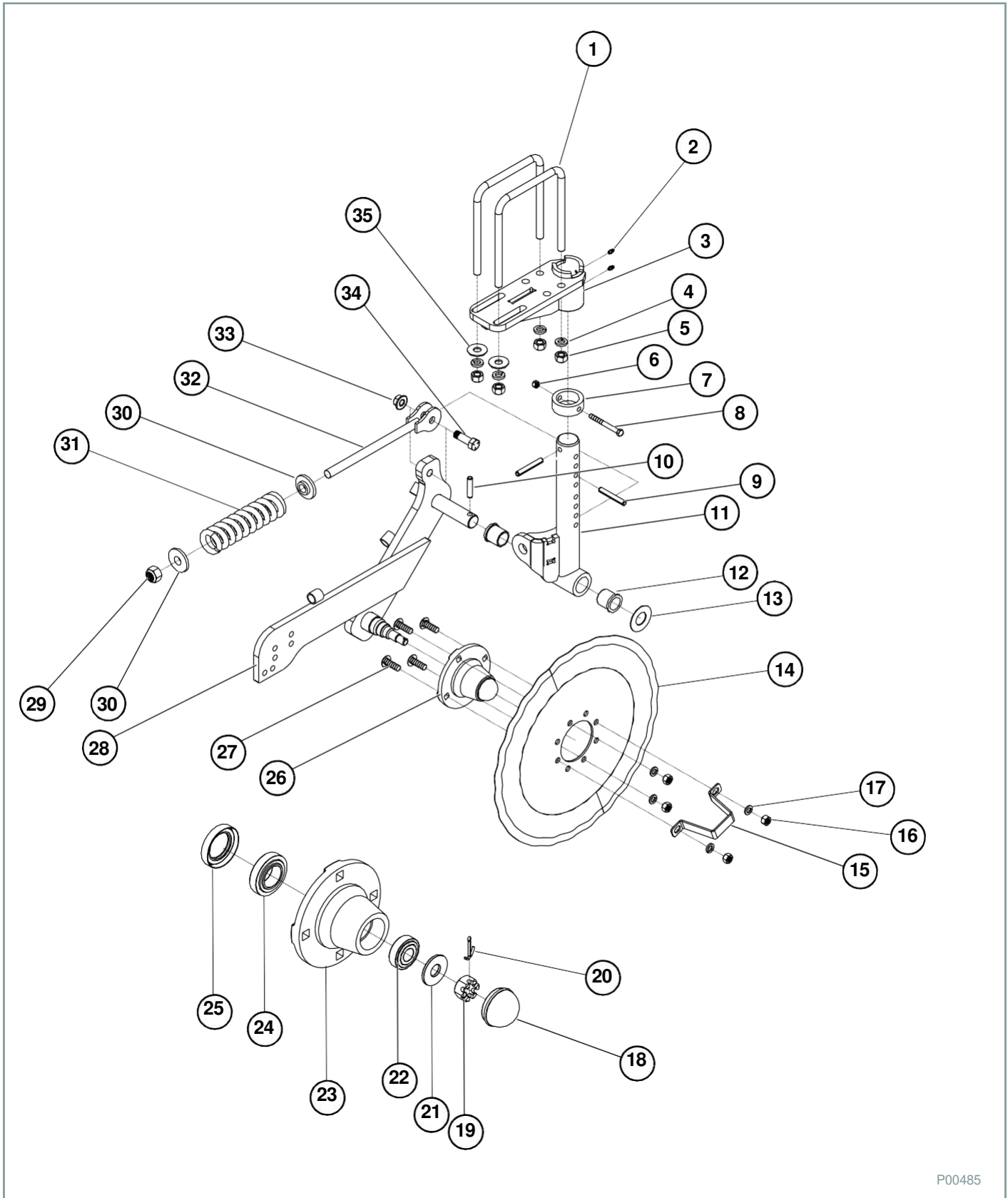
ILLUSTRATED PARTS LIST (CONT'D)

Gauge Wheel Assembly 26860 / 26861 (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|--------------------------------|------|
| 1 | 590061 | U-BOLT 5 X 7 | 2 |
| 2 NS | 22050L | GAUGE WHEEL MOUNT LH SHOWN | 1 |
| | 22050R | GAUGE WHEEL MOUNT RH NOT SHOWN | 1 |
| 3 | 596253M | LOCKWASHER 5/8" MAGNI | 4 |
| 4 | 596216M | NUT 5/8" MAGNI | 4 |
| 5 | 596285M | CLIP SPRING LOCKING | 1 |
| 6 | 19061 | PIN GAUGE WHEEL MOUNT | 1 |
| 7 NS | 22045L | GAUGE WHEEL ARM LH SHOWN | 1 |
| | 22045R | GAUGE WHEEL ARM RH NOT SHOWN | AR |
| 8 | 730021 | SEAL GREASE | 1 |
| 9 | 730032 | BEARING INNER | 1 |
| 10 | N910257 | CUP BEARING INNER | 1 |
| 11 | 730026 | NHUB 5 BOLT W CUPS | 1 |
| 12 | N910258 | CUP BEARING OUTER | 1 |
| 13 | 730036 | BEARING OUTER | 1 |
| 14 | 730033 | PIN COTTER | 1 |
| 15 | 700134 | TIRE/WHEEL 6.70 X 15 YELLOW | 1 |
| | 700133 | TIRE/WHEEL 6.70 X 15 SILVER | AR |
| 16 | 730044 | HUB CAP | 1 |
| 17 | 730035 | NUT CASTLE | 1 |
| 18 | 730034 | WASHER , SPINDLE NUT | 1 |
| 19 | 730030 | NUT, WHEEL 1/2" FINE THREAD | 5 |

ILLUSTRATED PARTS LIST (CONT'D)

FAST Coulter Assembly



P00485

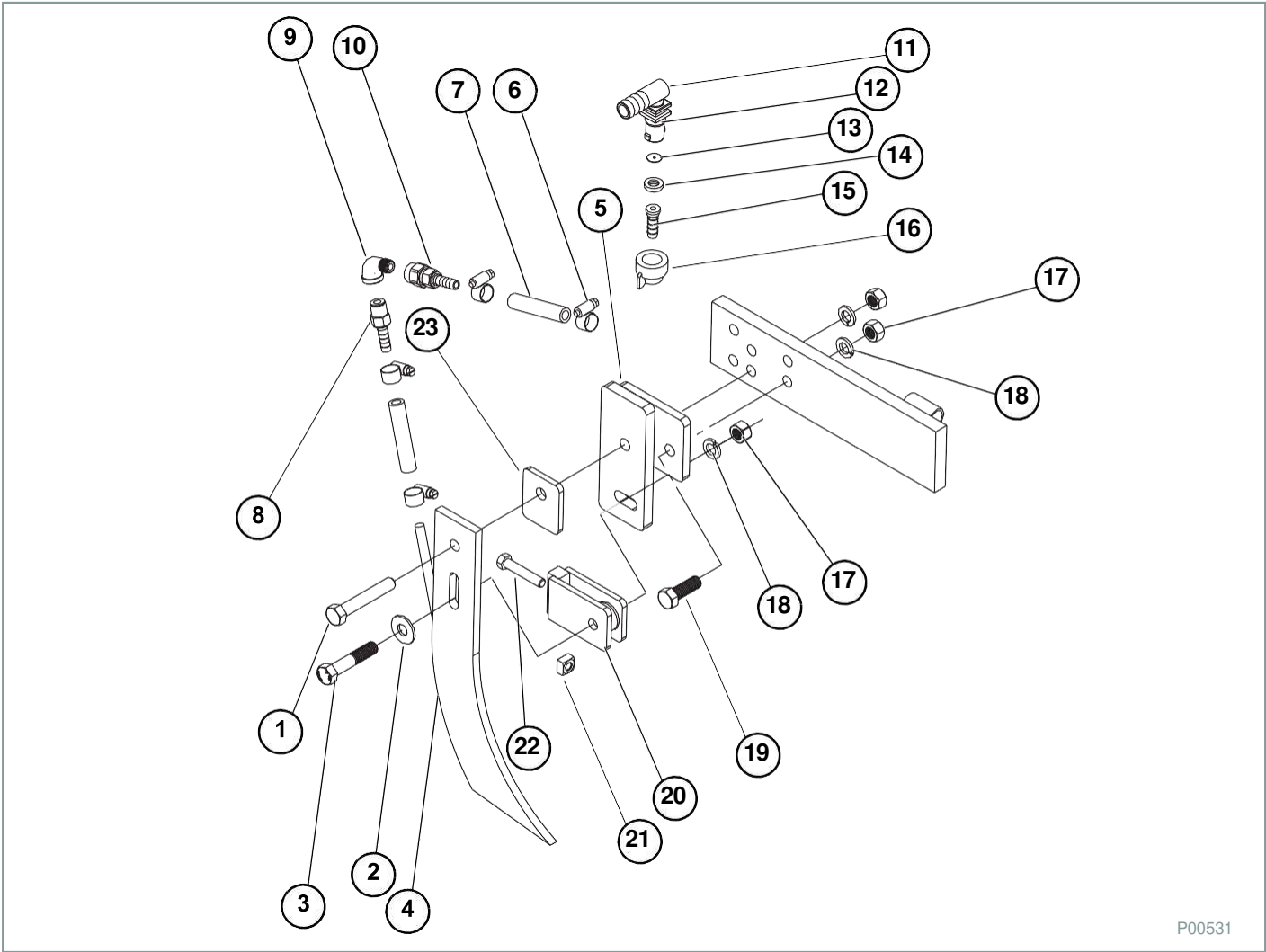
ILLUSTRATED PARTS LIST (CONT'D)

FAST Coultter Assembly 34470 / 34471 (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|-----------|--|------|
| 1 | 590108 | U-BOLT, 7 X 7 X 5/8, 7 X 7 BAR | AR |
| NS | 590177 | U-BOLT, 7 X 5 X 5/8, 5 X 7 BAR | AR |
| 2 | 759 | ZERK,GREASE 1/4028TPI | 2 |
| 3 | 17225 | COULTER MOUNT | 1 |
| 4 | 596253M | WASHER LOCK 5/8" | 4 |
| 5 | 596216M | NUT, HEX HEAD 5/8" | 4 |
| 6 | 596237M | NUT, HEX HEAD 5/8" CENTER LOCK | 1 |
| 7 | 17209 | COLLAR | 1 |
| 8 | 596133M | BOLT, HEX HEAD 3/8 x 3-1/2 GRADE 5 | 1 |
| 9 | 596739M | PIN, ROLL 7/16 x 3 | 2 |
| 10 | 596740M | PIN, ROLL 7/16 x 2 | 1 |
| 11 | 17240 | 2" SHANK WELDMENT | 1 |
| 12 | 530328 | FLANGED BUSHING | 2 |
| 13 | 596744M | WASHER 14 GA x 1-1/4" | 1 |
| 14 | 750014 | COULTER BLADE | 1 |
| 15 | 17214 | HUB CAP RETAINER BRACKET | 1 |
| 16 | 596215M | NUT, HEX HEAD 1/2" | 4 |
| 17 | 596251M | WASHER LOCK 1/2" | 4 |
| 18 | 730044 | HUB DUST CAP | 1 |
| 19 | 730088 | NUT, CASTLE 5/8" | 1 |
| 20 | 730033 | PIN COTTER | 1 |
| 21 | 730034 | WASHER, HUB | 1 |
| 22 | 730036 | BEARING | 1 |
| 23 | NIN285001 | HUB 4 BOLT | 1 |
| 24 | 730032 | BEARING | 1 |
| 25 | 730031 | SEAL, GREASE | 1 |
| 26 | 730095 | HUB COMPLETE (incl. items 18 thru 25) | 1 |
| 27 | 596620M | BOLT, CARRIAGE 1/2 x 1-1/2" | 4 |
| 28 | 17205 | COULTER MAIN ARM | 1 |
| 29 | 596743M | NUT, HEX HEAD 3/4" NYLOCK | 1 |
| 30 | 17208 | WASHER, SPRING END | 2 |
| 31 | 590123 | COULTER SPRING | 1 |
| 32 | 17210 | SPRING LEVER | 1 |
| 33 | 596742M | NUT, HEX HEAD 5/8" TOP LOCK | 1 |
| 34 | 590260 | BOLT, HEX HEAD 5/8 x 2 GRADE 5, SPECIAL | 1 |
| 35 | 596261M | WASHER FLAT 5/8" | 2 |
| NS | 17248L | OFFSET COULTER MOUNT LEFT | AR |
| NS | 17248R | OFFSET COULTER MOUNT RIGHT | AR |
| NS | 17244 | COULTER MOUNT TOP PLATE (WHEN U-BOLTS WILL NOT WORK) | AR |
| NS | 596477M | BOLT HEX HEAD 5/8" X 9" GR5 | AR |

ILLUSTRATED PARTS LIST (CONT'D)

Coulter Knife Assembly



P00531

ILLUSTRATED PARTS LIST (CONT'D)

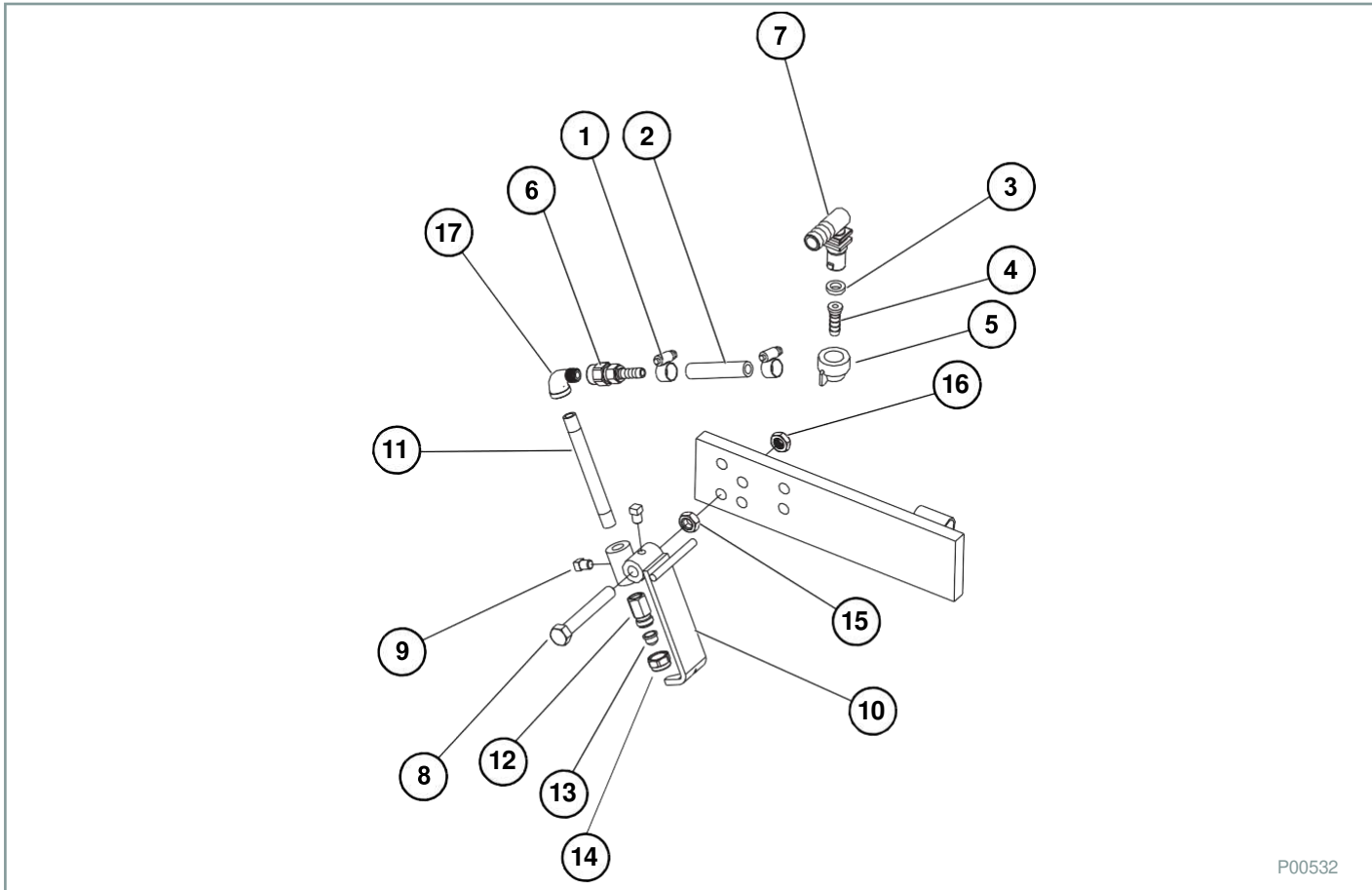
Coulter Knife Assembly (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|--|------|
| 1 | CLFBH0813 | CAP SCREW 1/2 IN. X 3-1/4 IN. | 1 |
| 2 | 596260M | WASHER 1/2 IN. X 1-1/2 IN. X 0.105 IN. | 2 |
| 3 | 596155M | BOLT HEX HEAD 1/2 IN. X 2-1/2 IN. GRADE 5 | 1 |
| 4 | 750003 | COLTER KNIFE | 1 |
| 5 | 17915 | KNIFE MOUNT | 1 |
| 6 | 540011 | CLAMP 3/8 IN. | 4 |
| 7 | 510020 | BULK HOSE 3/8 IN., AG EPDM SPRAYER HOSE | AR |
| 8 | 530247 | HOSE BARB 1/4 IN. NPT X 3/8 IN. BARB | 1 |
| 9 | 530246 | ELBOW FITTING 1/4 IN., STREET, NPT SS | 1 |
| 10 | 530188 | CHECK VALVE HOSE SHANK CHECK VALVE ASSEMBLY | 1 |
| 11 | 520003 | ELBOW FITTING 3/4 IN., ELBOW-HOSE | AR |
| NS | 520004 | HOSE FITTING 3/4 IN., TEE HOSE BARB | AR |
| 12* | TJCP4916-XXX | PLATE ORIFICE; REFER TO OM FOR ORIFICE SELECTION GUIDE | 1 |
| 13 | 590029 | SEALING WASHER ORIFICE DISC | 1 |
| 14 | 590077 | HOSE FITTING SHANK | 1 |
| 15 | 590076 | HOSE FITTING | 1 |
| 16 | C LFNH08 | CAP HOSE SHANK | 3 |
| 17 | CLEWL08 | LOCK WASHER 1/2 IN. | 3 |
| 18 | CLFBH0807 | CAP SCREW 1/2 IN. X 1-3/4 IN. | 1 |
| 19 | 17910 | KNIFE ADJUSTER | 1 |
| 20 | 596762M | NUT 3/8 IN. SQUARE NUT | 1 |
| 21 | 596660M | CAP SCREW 3/8 IN. X 2 IN. FULL THREAD | 1 |
| 22 | 17909 | COULTER SHIM PLATE | 1 |
| NS | 17920 | KNIFE SHIM 14 GAUGE | AR |
| NS | 17921 | KNIFE SHIM 10 GAUGE | AR |
| NS | 17922 | KNIFE SHIM 7 GA+A1:H67UGE | AR |

*-THE XXX IS ORIFICE SIZE.

ILLUSTRATED PARTS LIST (CONT'D)

Coulter Injection Assembly



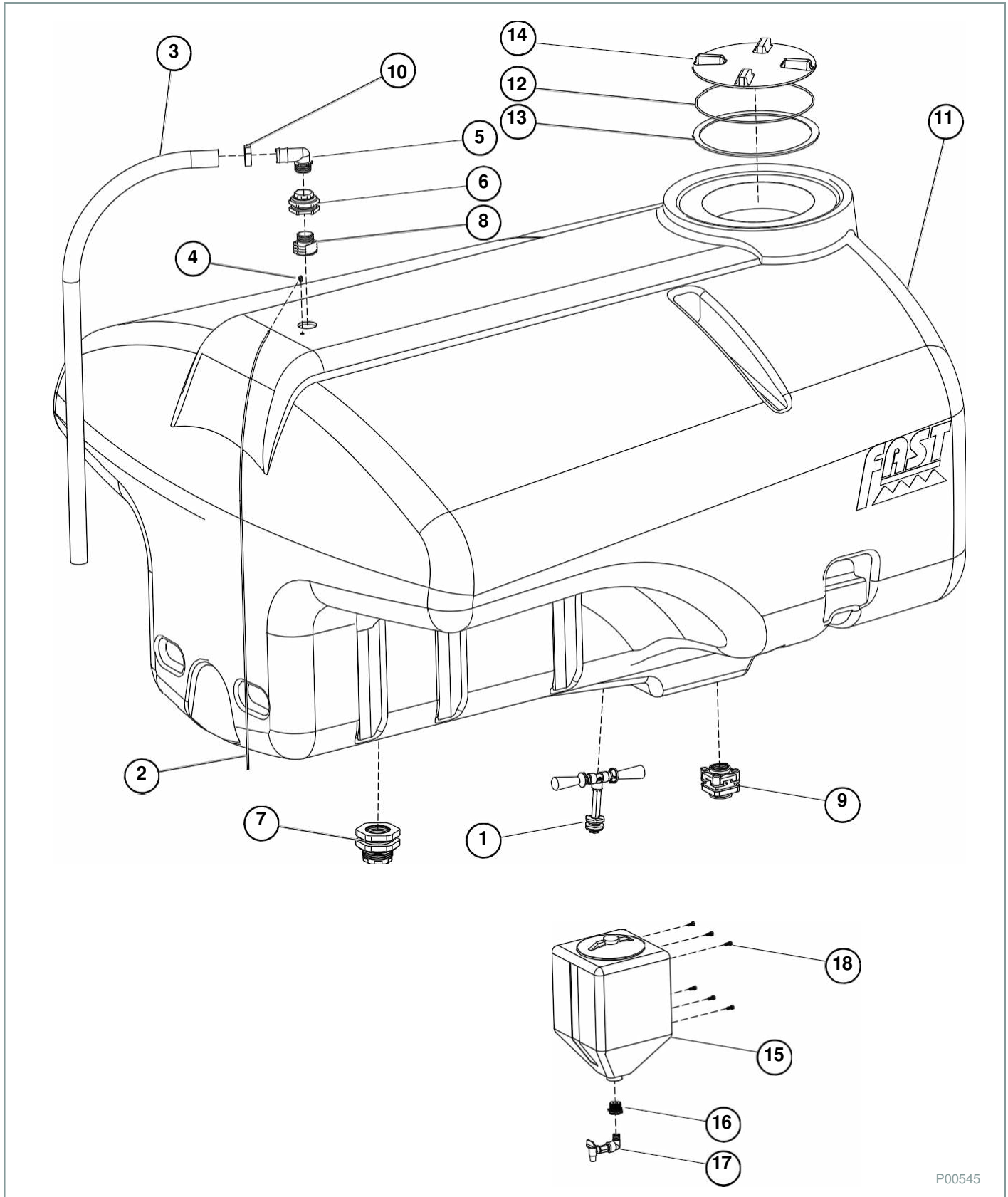
P00532

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|-------------|---|------|
| 1 | 540032 | CLAMP 5/16 IN. | 4 |
| 2 | 510020 | BULK HOSE 3/8 IN., AG EPDM SPRAYER HOSE | AR |
| 3 | 590016 | SEALING WASHER ORIFICE DISC | 1 |
| 4 | 590077 | HOSE FITTING SHANK | 1 |
| 5 | 590076 | CAP HOSE SHANK | 1 |
| 6 | 530188 | CHECK VALVE HOSE SHANK CHECK VALVE ASSEMBLY | 1 |
| 7 | 520003 | ELBOW FITTING 3/4 IN., ELBOW-HOSE | AR |
| NS | 520004 | ELBOW FITTING 3/4" TEE | AR |
| 8 | CLFBH0816SS | CAP SCREW 1/2 IN. X 4 IN., SS | 1 |
| 9 | CLFBS0602 | SET SCREW 3/8 IN. X 1/2 IN. | 2 |
| 10 | 750016 | GUARD ROCK | 1 |
| 11 | 530199 | THREADED NIPPLE 1/4 X 5, SS | 1 |
| 12 | 520014 | NOZZLE HOLDER SS | 1 |
| 13 | TJTP00XX | NOZZLE TIP SS - #4; SEE OM FOR TIP SELECTION GUIDELINES | 1 |
| 14 | 520015 | CAP NOZZLE HOLDER | 1 |
| 15 | 750009 | NUT 1/2 IN. JAM, SS | 1 |
| 16 | 750011 | NUT 1/2 IN. NYLOCK, SS | 1 |
| 17 | 530246 | ELBOW FITTING 1/4 IN., STREET, NPT SS | 1 |



ILLUSTRATED PARTS LIST (CONT'D)

2400 Tank Assemblies



P00545

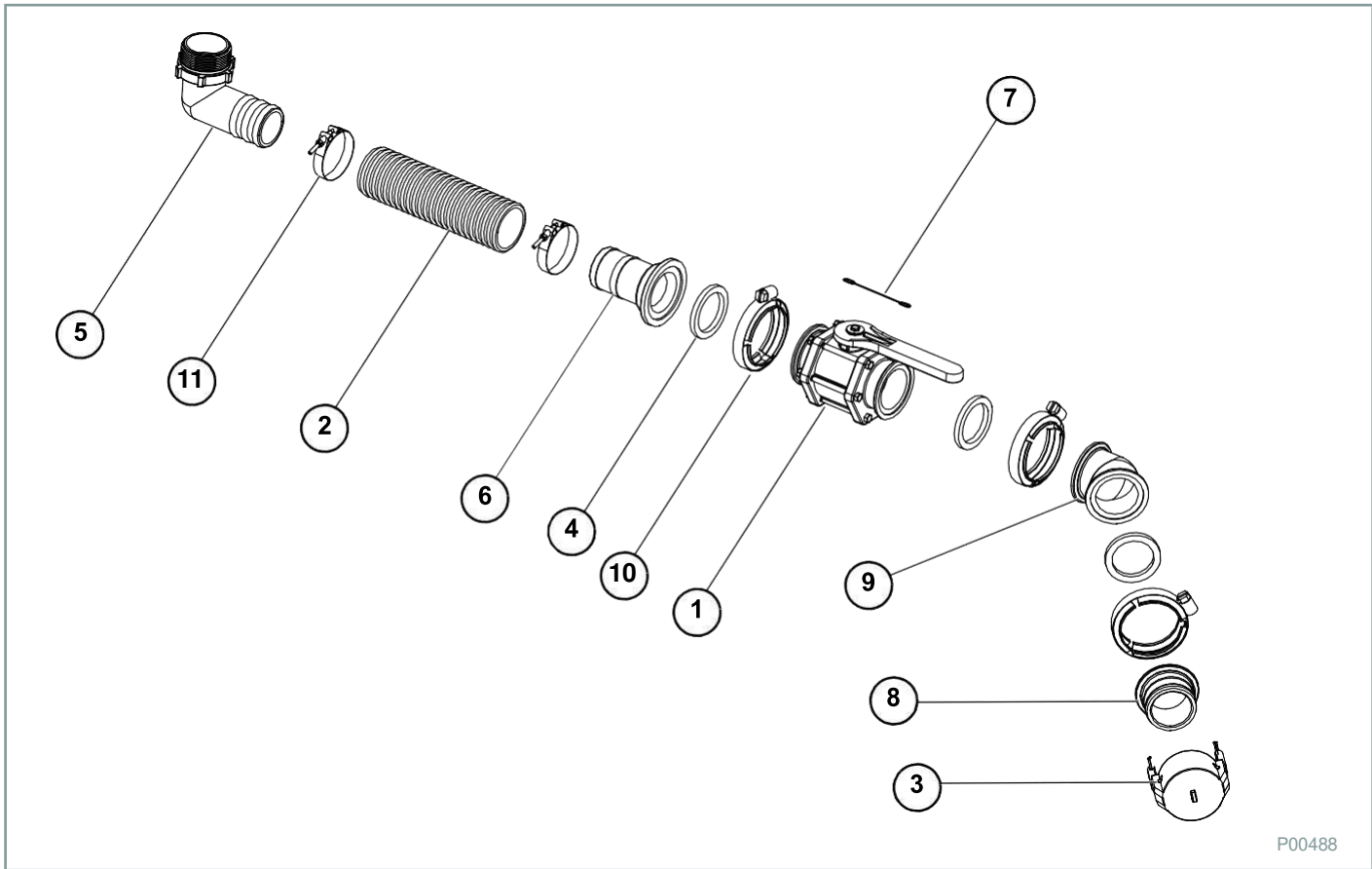
ILLUSTRATED PARTS LIST (CONT'D)

2400 Tank Assemblies (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|--|------|
| 1 | 90SALTRUMPET | AGITATION ASSEMBLY | 1 |
| 2 | 510023 | TUBE, PUMP BURP, 1/4" X 7' | 1 |
| 3 | 510025 | HOSE, OVERFLOW, 2" X 18' | 1 |
| 4 | 530004 | CONNECTOR, 90° 1/4" TUBE X 1/4" NPT | 1 |
| 5 | 530051 | 2" MPT X 2" HOSE BARB 90° | 1 |
| 6 | 530163 | 2" TANK FITTING | 1 |
| 7 | 530164 | 3" TANK FITTING | 1 |
| 8 | 530331 | 2" VENTED CAP (10 GAL. TANK ONLY) | 1 |
| 9 | 530350 | 2" FLANGE BOTTOM DRAIN | 1 |
| 10 | 540007 | HOSE CLAMP, 2" T-BOLT | 1 |
| 11 | 570090 | TANK, 2400 GALLON WHITE | 1 |
| | 570091 | TANK, 2400 GALLON YELLOW | |
| 12-14 | 570158 | LID ASSEMBLY, NON-VENTED | 1 |
| 12 | 570120 | O-RING | - |
| 13 | 570121 | FLAT GASKET | - |
| 14 | 570123 | NON VENTED TANK LID | - |
| 15 | 570092 | TANK 10 GAL, WHITE (OPTION) | 1 |
| | 570097 | TANK 10 GAL, YELLOW (OPTION) | 1 |
| 16 | 530143 | 1-1/4INCHMPTX3/4INCHFPT REDUCE | 1 |
| 17 | 90SAFCHWF | FC HAND WASH FAUCET ASSY | 1 |
| 18 | 596114M | BOLT, HH 5/16-18X3/4 GR5 MAGNI (10 GAL. TANK ONLY) | 6 |

ILLUSTRATED PARTS LIST (CONT'D)

Three Inch Quick Fill

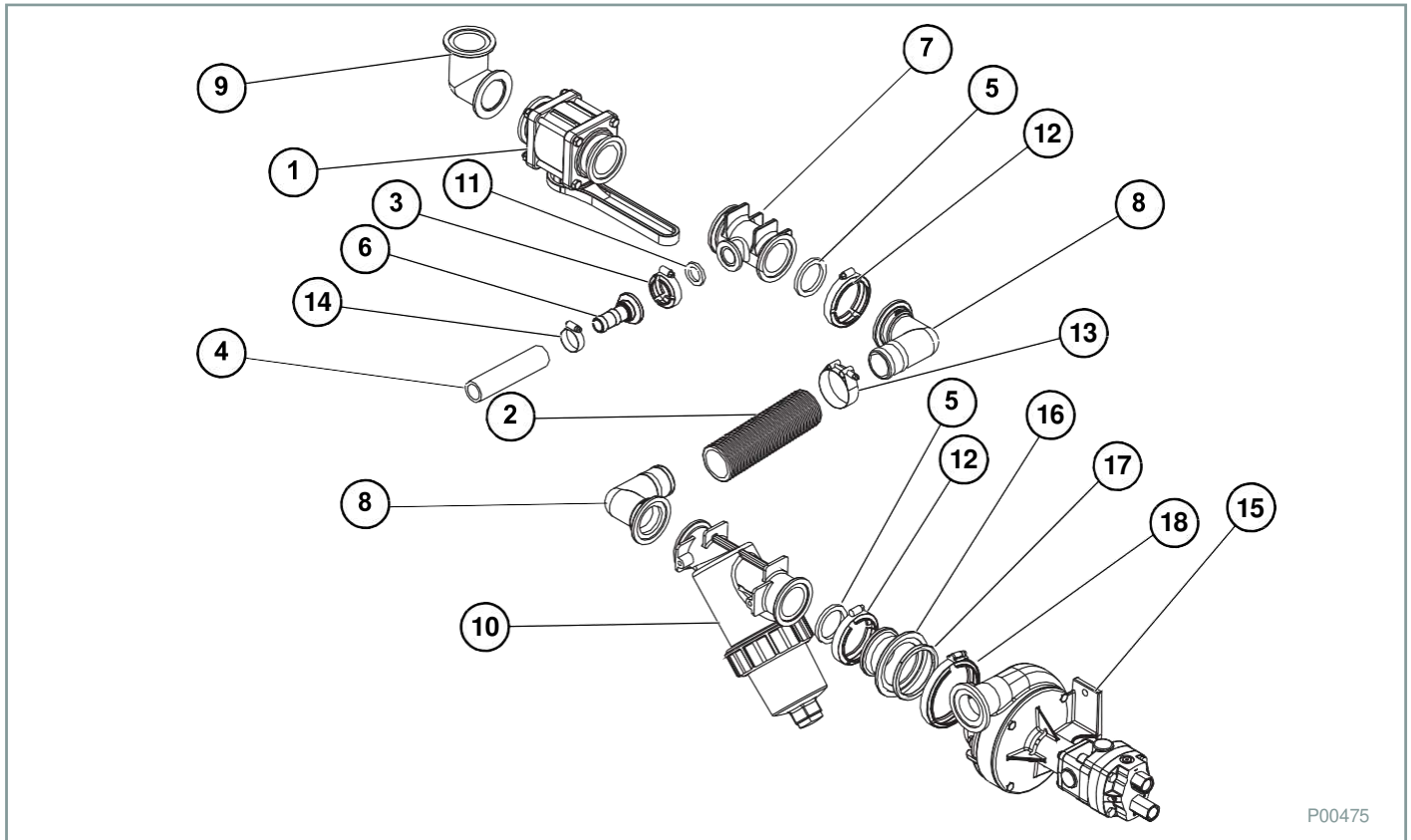


P00488

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|-------------------------------|------|
| 1 | 500042 | VALVE, 3" MANIFOLD | 1 |
| 2 | 510038 | HOSE, 3" FERTILIZER | 1 |
| 3 | 530023 | CAP, 3" | 1 |
| 4 | 530024 | GASKET, 3" EPDM | 3 |
| 5 | 530053 | 3" HOSE BARB ELBOW 90° | 1 |
| 6 | 530113 | 3" MANIFOLD X 3" HOSE BARB | 1 |
| 7 | 530179 | LANYARD | 1 |
| 8 | 530233 | 3" MANIFOLD X 3" MALE ADAPTER | 1 |
| 9 | 530234 | 3" MANIFOLD COUPLER, 45° | 1 |
| 10 | 540003 | CLAMP, 3" | 3 |
| 11 | 540009 | CLAMP, 3" T BOLT | 2 |

ILLUSTRATED PARTS LIST (CONT'D)

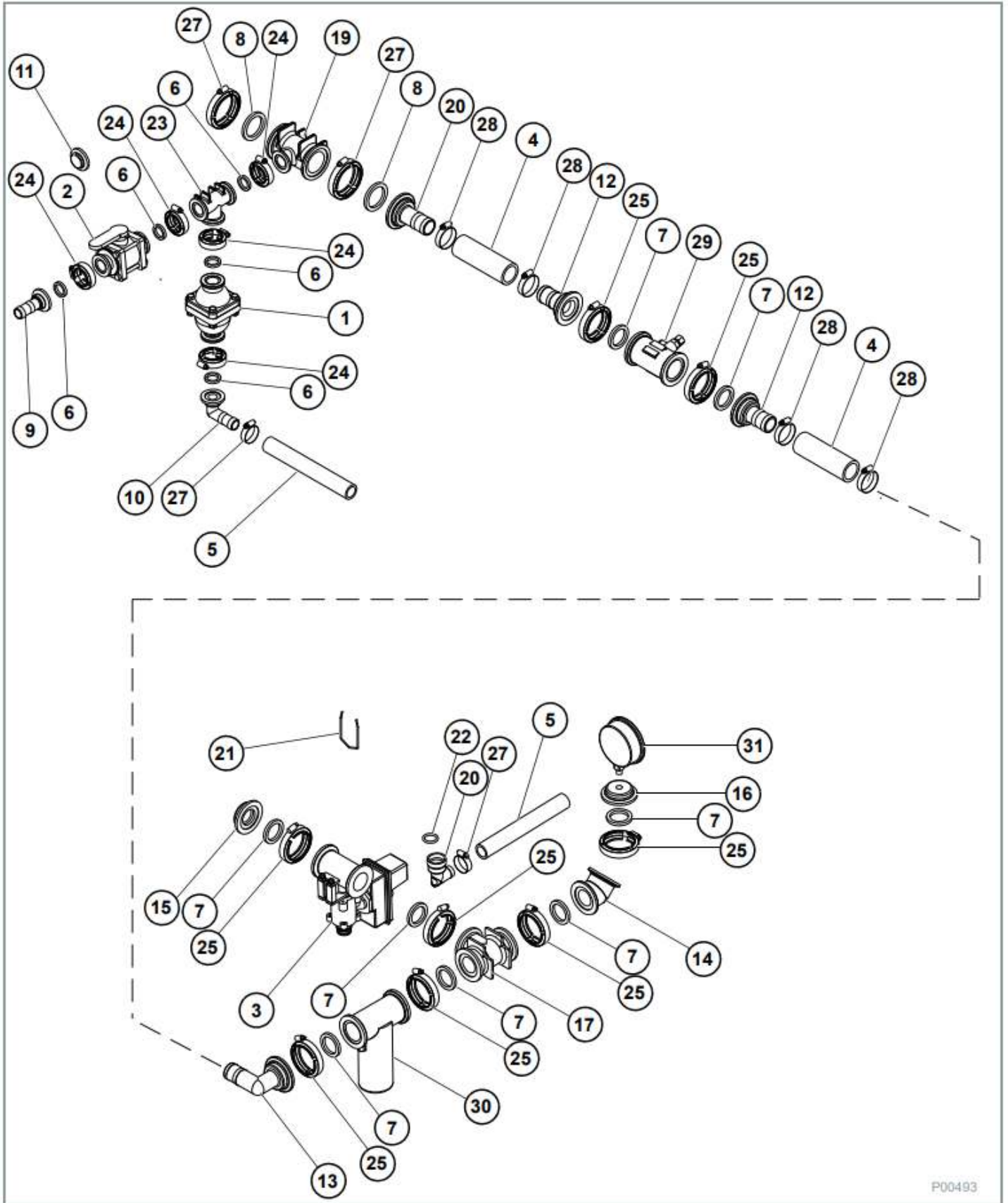
Tank To Pump Plumbing



| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|---|----------|---|------|
| 1 | 500006 | VALVE FLANGED 2INCH FP-4 BOLT | 1 |
| 2 | 510003 | HOSE 2 IN FERTILIZER | AR |
| 3 | 540000 | MANIFOLD CLAMP 1" | 1 |
| 4 | 510016 | HOSE 1 IN EPDM | AR |
| 5 | 530019 | 2 INCH EPDM GASKET | 6 |
| 6 | 530066 | 1 INCH MANIFOLD X 1INCH BARB | 1 |
| 7 | 530099 | 2 INCH FULL PORT X 1INCH FLANGE | 1 |
| 8 | 530104 | 2 INCH FP FLANGE X 2INCH HB 90 | 2 |
| 9 | 530106 | 2 INCHFP X 2INCH FP MANIFOLD CO | 1 |
| 10 | 530125 | STAINER MANIFOLD FULL PORT | 1 |
| 11 | 530013 | 1 INCHEPDM GASKET FOR 1 INCH & 1 | 1 |
| 12 | 540002 | CLAMP 2 INCH FULL WORM SCREW | 6 |
| 13 | 540008 | CLAMP 2 IN T-BOLT HOSE 2.87 MI | 2 |
| 14 | 540014 | CLAMP 1 INCH WORM SCREW | 1 |
| 15 | 550025 | PUMP ACE 205F-304 | 1 |
| | 550011 | PUMP HYPRO (OPTIONAL) 9306-BU-HM1 (SHOWN) | |
| 16 | 530316 | FLANGE REDUCER | 1 |
| 17 | 530024 | 3 INCH EDPM GASKET | 1 |
| 18 | 540003 | MANIFOLD CLAMP 3" | 1 |
| ITEMS 16-18 NOT USED WITH HYPRO PUMP (OPTIONAL) ITEM 15 | | | |

ILLUSTRATED PARTS LIST (CONT'D)

Large Cart To Ball Valve Plumbing



P00493

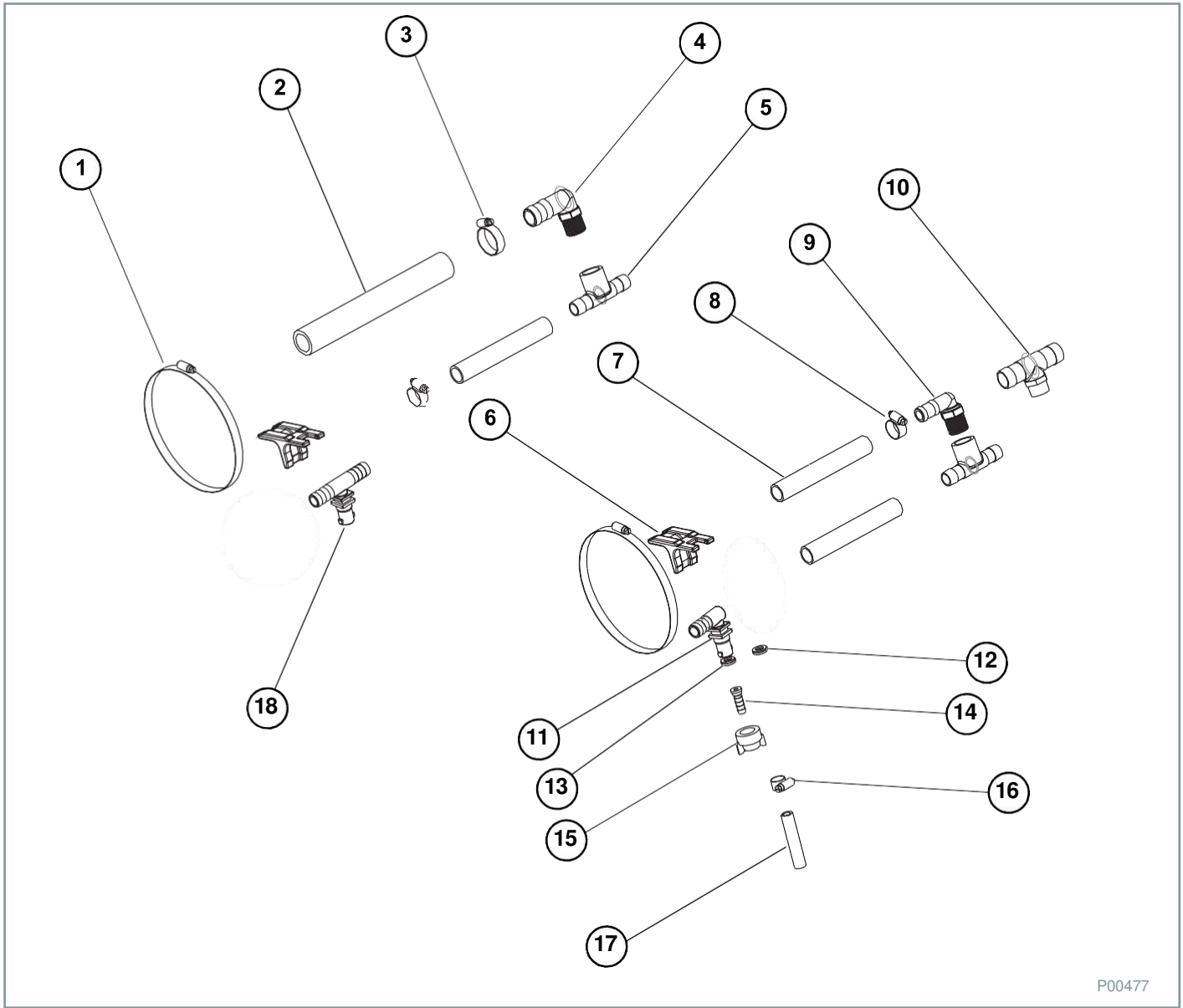
ILLUSTRATED PARTS LIST (CONT'D)

Large Cart To Ball Valve Plumbing (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|---------------------------------------|------|
| 1 | 500004 | VALVE, 100 PSI RELIEF | 1 |
| 2 | 500005 | VALVE, 1" FULL PORT | AR |
| 3 | 500028 | 1 VALVE MANIFOLD | AR |
| 4 | 510014 | HOSE, 1-1/2" EPDM | AR |
| 5 | 510016 | HOSE, 1" EPDM | AR |
| 6 | 530013 | GASKET, 1" EPDM | AR |
| 7 | 530014 | GASKET, 1-1/2" EPDM | AR |
| 8 | 530019 | GASKET, 2" EPDM | AR |
| 9 | 530066 | 1" MANIFOLD X 1" HOSE BARB | AR |
| 10 | 530070 | 1" MANIFOLD PLUG (WITHOUT AGITATION) | 1 |
| 11 | 530070 | 1" MANIFOLD PLUG | AR |
| 12 | 530079 | 2" MANIFOLD X 1-1/2" HOSE BARB | AR |
| 13 | 530080 | 2" MANIFOLD X 1-1/2" HOSE BARB 90° | 1 |
| 14 | 530087 | 2" FLANGE COUPLER, 45° | AR |
| 15 | 530093 | 2" MANIFOLD PLUG | 1 |
| 16 | 530094 | 2" MANIFOLD PLUG W/ 1/4" FPT | 1 |
| 17 | 530097 | 2" MANIFOLD TEE | 1 |
| 18 | 530099 | 2' FULL PORT MANIFOLD X 1" FLANGE TEE | AR |
| 19 | 530100 | 2" FULL PORT X 1-1/2" HOSE BARB | AR |
| 20 | 530190 | 1" 90° HOSE BARB, NYLON | AR |
| 21 | 530193 | RETAINING CLIP | AR |
| 22 | 530198 | O-RING, VITON | AR |
| 23 | 530298 | 1" MANIFOLD TEE | 1 |
| 24 | 540000 | CLAMP, 1" | AR |
| 25 | 540001 | CLAMP, 2" | AR |
| 26 | 540002 | CLAMP, 2" FULL PORT | AR |
| 27 | 540014 | CLAMP, 1" | AR |
| 28 | 540016 | CLAMP, 1-1/2" | 4 |
| 29 | 631804 | FLOW METER, 60P | AR |
| 30 | 631805 | CONTROL VALVE, 1-1/2" | 1 |
| 31 | 790020 | GAUGE, 160 PSI | 1 |
| NS | 631801 | FLOW METER, 100P | AR |

ILLUSTRATED PARTS LIST (CONT'D)

Toolbar Plumbing



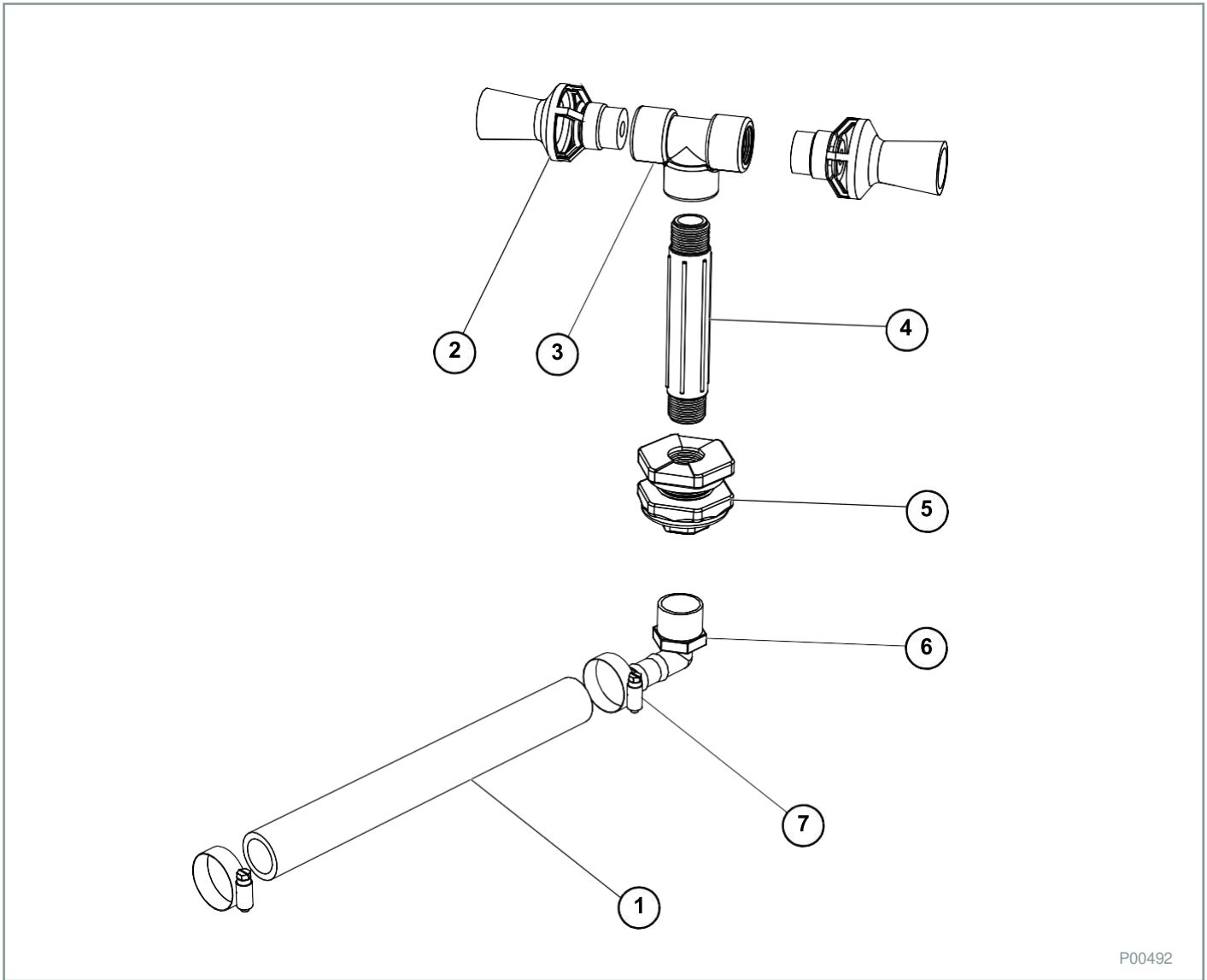
P00477

ILLUSTRATED PARTS LIST (CONT'D)
Toolbar Plumbing (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|---|----------|---------------------------------|------|
| 1 | 540050 | HOSE CLAMP 7" | AR |
| 2 | 510016 | HOSE 1" EDPM | AR |
| 3 | 540014 | HOSE CLAMP 1" | AR |
| 4 | 530036 | HOSE BARB 90° 3/4" PT x 1" HB | AR |
| 5 | 530220 | TEE 3/4" HOSE BARB x 3/4" FPT | AR |
| 6 | 590187 | MOUNT NOZZLE BODY | AR |
| 7 | 510019 | HOSE 3/4" EDPM | AR |
| 8 | 540013 | HOSE CLAMP 3/4" | AR |
| 9 | 510011 | HOSE BARB 90° 3/4" PT x 3/4" HB | AR |
| 10* | 530181 | 3/4" MPT X 3/4" HOSE BARB TEE | AR |
| 11** | 520003 | NOZZLE SINGLE FOR INJECTION | AR |
| 12** | 520016 | GASKET FOR INJECTION | AR |
| 13* | 590029 | GASKET (ORFICE) FOR KNIFE | AR |
| 14* | 590076 | CAP FOR BARB | AR |
| 15 | 590077 | CONNECTOR, HOSE BARB | AR |
| 16 | 540011 | HOSE CLAMP 3/8" | AR |
| 17 | 510020 | HOSE 3/8" EDPM | AR |
| 18** | 520004 | NOZZLE TEE FOR INJECTION | AR |
| * - ITEMS 10 AND 13 USED WITH KNIFE ON COULTER | | | |
| ** - ITEMS 11, 12 AND 18 USED WITH INJECTION ON COULTER | | | |

ILLUSTRATED PARTS LIST (CONT'D)

Agitation And Control



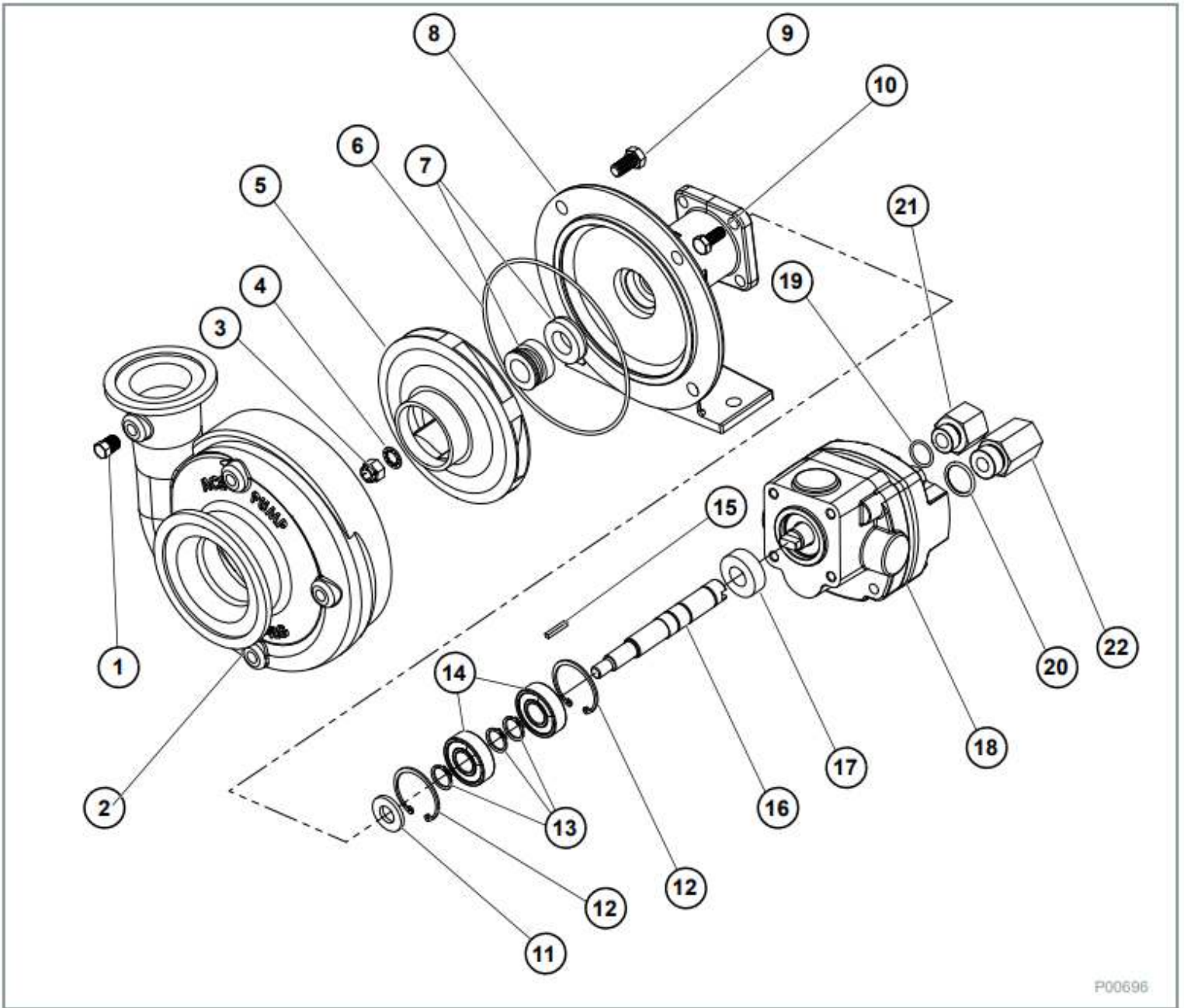
P00492

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|------------------------------------|------|
| 1 | 510016 | HOSE 1" EDPM | AR |
| 2 | 520029 | AGITATION NOZZLE | 2 |
| 3 | 530156 | TEE 3/4" NPT | 1 |
| 4 | 530130 | NIPPLE 3/4" X 6 | 1 |
| 5 | 530160 | BULKHEAD 3/4" NPT | 1 |
| 6 | 530036 | HOSE BARB ELBOW 3/4" NPT X 1" HOSE | 1 |
| 7 | 540014 | CLAMP 1" HOSE | 2 |



ILLUSTRATED PARTS LIST (CONT'D)

Ace 205F - 304 Pump



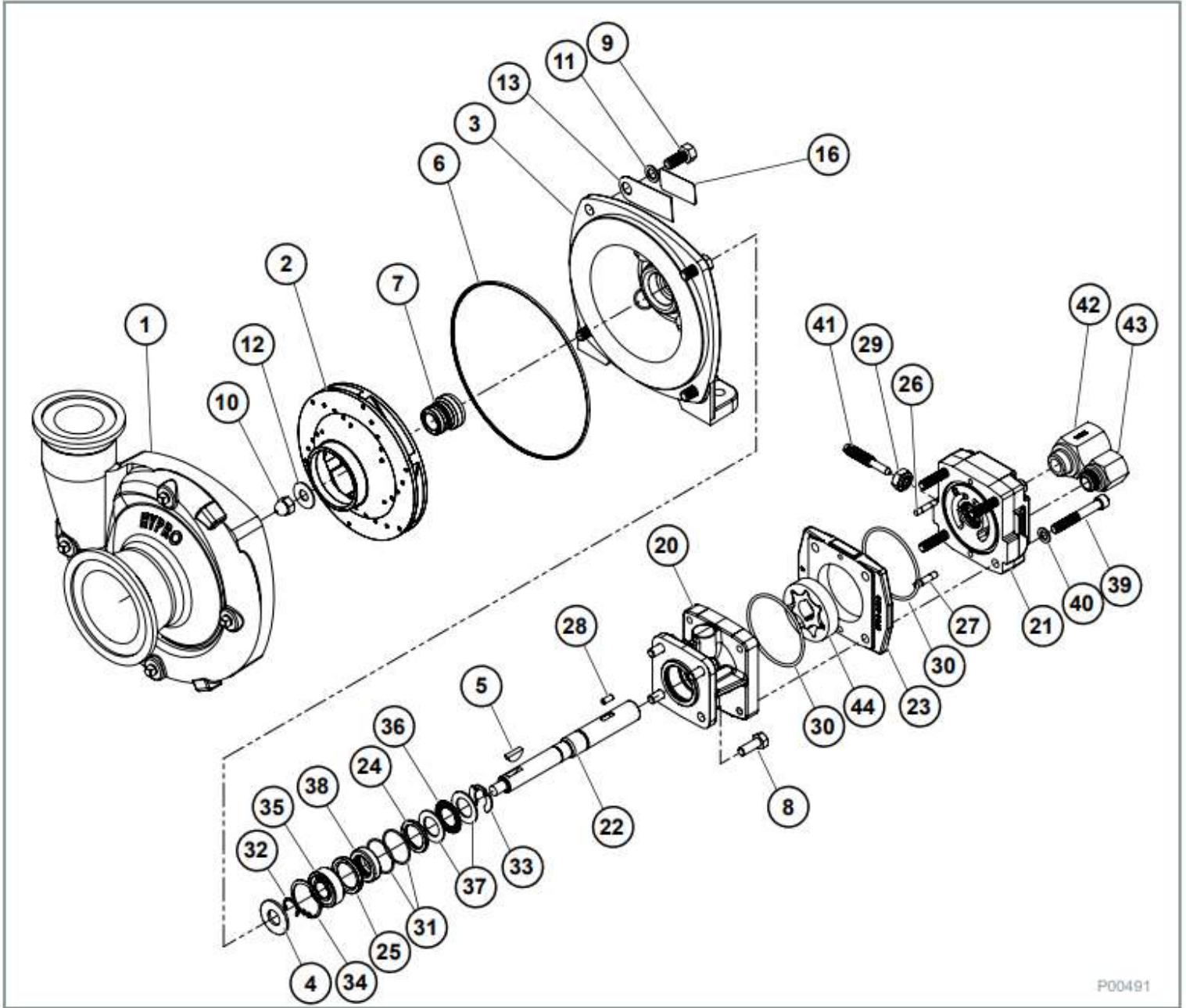
ILLUSTRATED PARTS LIST (CONT'D)

Ace 205F - 304 Pump 55025 (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|--|------|
| 1 | 41100 | PIPE PLUG | 4 |
| 2 | 41530 | VOLUTE, 300 STANDARD FLANGE X 220 FULL PORT FLANGE, CAST IRON | 1 |
| 3 | 43092 | NUT, 3/8" NF, STAINLESS STEEL | 1 |
| 4 | 4044 | WASHER, 3/8", STAINLESS STEEL, SELF-LOCKING | 1 |
| 5 | 40434 | IMPELLER, THERMOPLASTIC | 1 |
| 6* | 40005 | O-RING, BODY SEAL | 1 |
| 7* | 40149 | SEAL, SILICON CARBIDE | 1 |
| 8 | 40338 | MOUNTING FRAME FOR 205 PUMP | 1 |
| 9 | 40950 | CAP SCREW, 3/8" NC X 3/4" HEX HEAD | 4 |
| 10 | 41330 | CAP SCREW, 5/16" NC X 3/4" HEX HEAD, MOTOR TO PUMP | 4 |
| 11 | 41130 | SLINGER | 1 |
| 12 | 40820 | SNAP RING, INTERNAL, BAC-14-205 MOUNTING FRAME | 2 |
| 13 | 40835 | SNAP RING, EXTERNAL, BAC-6-205 SHAFT | 3 |
| 14 | 40880 | BALL BEARING, SEALED, BAC-6-205 SHAFT | 2 |
| 15 | 40068 | SHAFT, EXTENDED KEYWAY, TANG, STAINLESS STEEL | 1 |
| 16 | 40425 | KEY, 1/8" X 1/8" X 13/16", EXTENDED KEYWAY | 1 |
| 17 | 40163 | SEAL SUPPORT SPACER FOR 205 SERIES PUMP | 1 |
| 18 | 41426 | HYDRAULIC MOTOR, 11 GPM, EFFECTIVE 5/13 | 1 |
| 19 | 41875 | O-RING, #8 SAE FITTING | 1 |
| 20 | 41445 | O-RING, #10 SAE FITTING | 1 |
| 21 | 41461 | BODY, RESTRICTOR ORIFICE, #8 SAE X #10 SAE | 1 |
| 22 | 41467 | REVERSE CHECK ASSEMBLY, #10 SAE X #10 SAE | 1 |
| NS | 52705 | REPAIR KIT FOR FMC-205 PUMP WITH SILICON CARBIDE SHAFT SEAL (INCLUDES ITEMS 6 AND 7) | AR |
| NS | 41361 | REPAIR KIT FOR 300 SERIES HYDRAULIC MOTOR | AR |

ILLUSTRATED PARTS LIST (CONT'D)

Hypro Pump



P00491

550011 Complete pump
HY-93079
9B06C-HMLC-UB

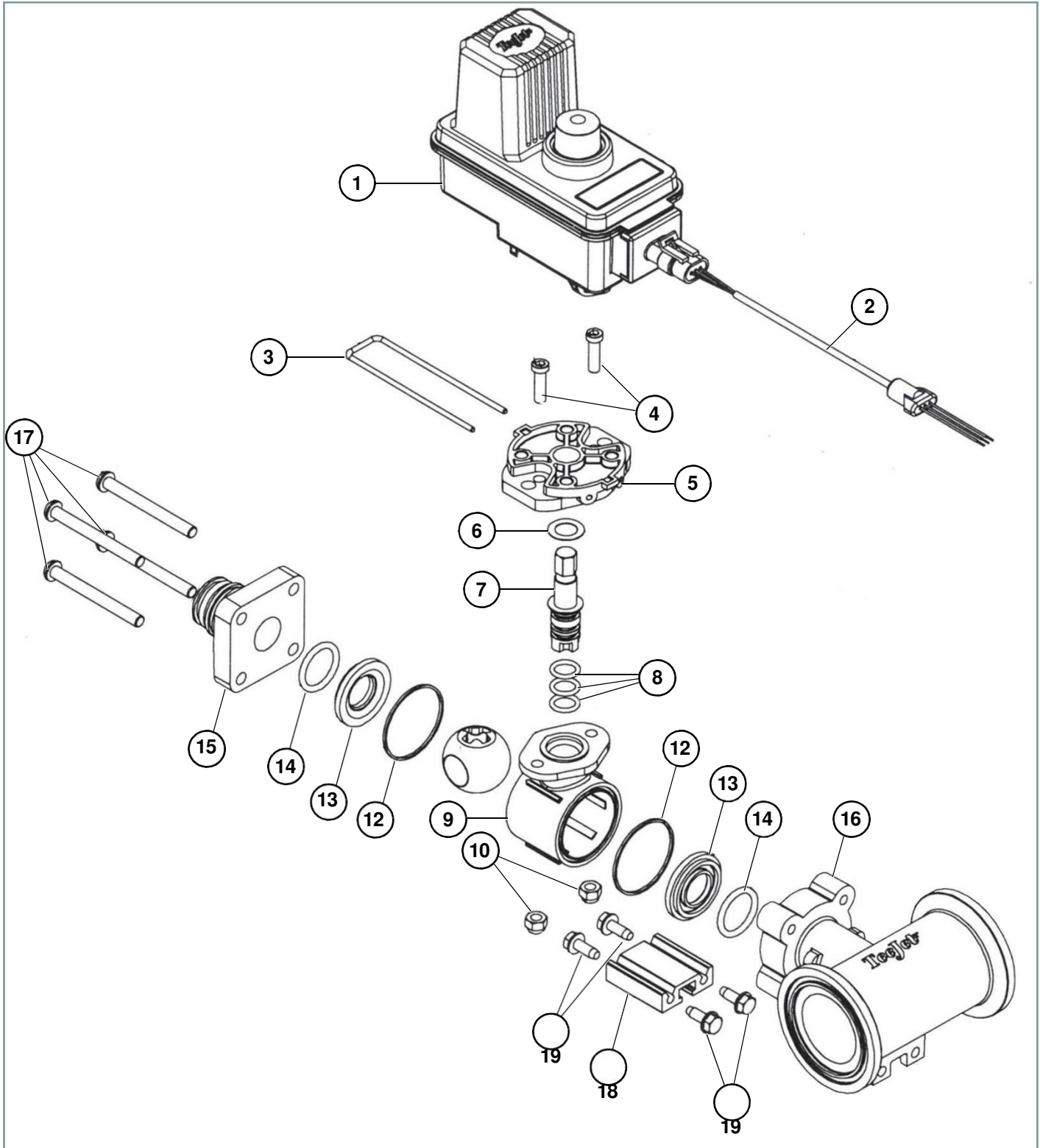
ILLUSTRATED PARTS LIST (CONT'D)

Hypro Pump (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|-------------|-------------------------------------|------|
| 1 | 0158-9200C | PUMP HOUSING, 300X220 U.FLG | 1 |
| 2 | 0401-9200P2 | IMPELLER (CW ROTATION) | 1 |
| 3 | 0750-9300C2 | MOUNTING FLANGE | 1 |
| 4 | 1410-0056 | SLINGER SEAL | 1 |
| 5 | 1610-0012 | WOODRUFF KEY | 1 |
| 6 | 1720-0083 | O-RING | 1 |
| 7 | 2120-0039 | SEAL, MECHANICAL | 1 |
| 8 | 2210-0005 | CAP SCREW, HEX HEAD 5/16"-18 X 7/8" | 1 |
| 9 | 2210-0020 | CAP SCREW, HEX HEAD 3/8"-16 X 7/8" | 4 |
| 10 | 2253-0002 | ALCNUT 0.3750-24-N | 4 |
| 11 | 2270-0041 | WASHER | 1 |
| 12 | 2270-0071 | IMPELLER WASHER | 1 |
| 13 | 2270-0076 | TAG | 1 |
| 14 | 3031-0134 | CARTON - INDIVIDUAL | 1 |
| 15 | 3435-0171 | PACKING KIT | 1 |
| 16 | 6031-0325 | DECAL | 1 |
| 17 | 6031-0340 | LABEL READY FOR ROUND UP | 1 |
| 18 | 6031-0343 | INSTRUCTION TAG | 1 |
| 19 | 6031-0373 | CE STICKER LABEL | 1 |
| 20 | 0150-2500C | BODY ASSY-SMALL PILOT | 1 |
| 21 | 0254-2500C2 | END PLATE ASSY | 1 |
| 22 | 0533-2500 | SHAFT | 1 |
| 23 | 0700-2500C1 | GEROTOR HOUSING HM1, COATED | 1 |
| 24 | 1410-0130 | SPACER, 3L SEAL | 1 |
| 25 | 1410-0131 | CARTRIDGE, FRONT | 1 |
| 26 | 1600-0037 | DOWEL PIN | 1 |
| 27 | 1600-0044 | DOWEL PIN | 1 |
| 28 | 1610-0031 | HM1 & HM5 ROUND KEY | 1 |
| 29 | 1700-0245 | NUT, SEALING | 1 |
| 30 | 1720-0110 | O-RING | 2 |
| 31 | 1720-0268 | O-RING | 2 |
| 32 | 1810-0014 | RETAINING RING | 1 |
| 33 | 1810-0026 | RETAINING RING | 1 |
| 34 | 1820-0013 | INT. RET. RING | 1 |
| 35 | 2000-0010 | BEARING, BALL | 1 |
| 36 | 2029-0009 | BEARING, THRUST | 1 |
| 37 | 2029-0010 | BEARING RACE, THRU | 2 |
| 38 | 2104-0010 | LIP SEAL | 1 |
| 39 | 2220-0021 | SCREW, SOCKET HEAD | 4 |
| 40 | 2270-0039 | WASHER, FLAT 5/16" | 4 |
| 41 | 3220-0029 | VALVE STEM | 1 |
| 42 | 3320-0052A | CHECK VALVE ASSY - TANK PORT | 1 |
| 43 | 3360-0023A | ADAPTER-INLET PORT ASSY | 1 |
| 44 | 3900-0022 | GEROTOR | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

Directo Valve® Electric 2-Way Ball Valve Manifold



P00770

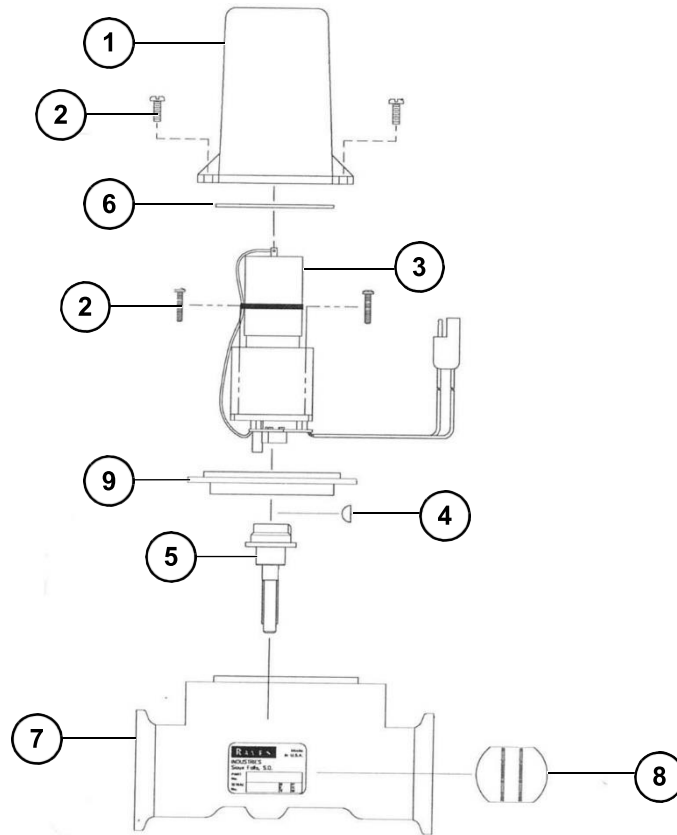
ILLUSTRATED PARTS LIST (CONT'D)

Directo Valve® Electric 2-Way Ball Valve Manifold (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------------|--|------|
| 1 | 50515-22CP03 | BEC MOTOR, 22-RPM (0.7-SEC),0.3-METER CABLE, POSITIVELY SWITCHED | 1 |
| 2 | 98546EC-_ | 3-WIRE CABLE W/ METRI-PACK TOWER CONNECTION | 1 |
| 3 | CP50517-SSPV | RETAINING CLIP, 304 STAINLESS STEEL | 1 |
| 4 | CP26197-7/8-SS | SOCKET HEAD CAP SCREW, STAINLESS STEEL | 2 |
| 5 | CP5514-99 | MOTOR ADAPTER, POLYPROPYLENE (BLACK) | 1 |
| 6 | CP20125-TEF | THRUST WASHER, TEFLON™ | 1 |
| 7 | CP56613-SS | STEM, 303 STAINLESS STEEL (FOR POLYPYLENE BALL | 1 |
| 8 | CP7717-M12X2.5-VI | O-RING VITON® | 3 |
| 9 | CP20101-NYB | BODY, NYLON (BLACK) (2-WAY) | 1 |
| 10 | CP38435-1/4-SSNY | ELESTIC LOCKNUT, STAINLESS STEEL | 2 |
| 11 | CP20106-1-PP | BALL, POLYPROPYLENE (WHITE) (2-WAY) | 1 |
| 12 | CP20564-VI | GASKET, VITON® | 2 |
| 13 | CP20103-TEF | SEAL, TEFLON™ | 2 |
| 14 | CP7717-2/213-VE | O-RING, VITON™ | 2 |
| 15 | CP45514-NYB | END CAP, NYLON (BLACK) (QUICK CONNECT) | 1 |
| 16 | CP45251-PP | 75-SERIES TEE BODY, POLYPYLENE (BLACK) | 1 |
| 17 | CP45252-2-3/4-SSPV | SCREW, 1/4 IN.-12 X 2-3/4 IN. PAN HEAD, STAINLESS STEEL | 4 |
| 18 | CP45216-AL | MOUNTING RAIL, ALUMINUM | 1 |
| 19 | CP45259-S | SCREW, M6 X 1 16 MM HEX, STAINLESS STEEL | 1 |
| NS | 56609-2_ _ _ _ | VALVE BODY SUB-ASSY, SPECIFY WIDTH, OUTLET FITTING AND BALL MATERIAL (INCLUDES ITEMS 4 THROUGH 19) | 1 |
| NS | AB344AE-KIT | SPARE PARTS KIT (INCLUDES ITEMS 6, 8, 12, 13 AND 14) | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

1-1/2 In. Poly Control Valve Assembly (063-0171-894)

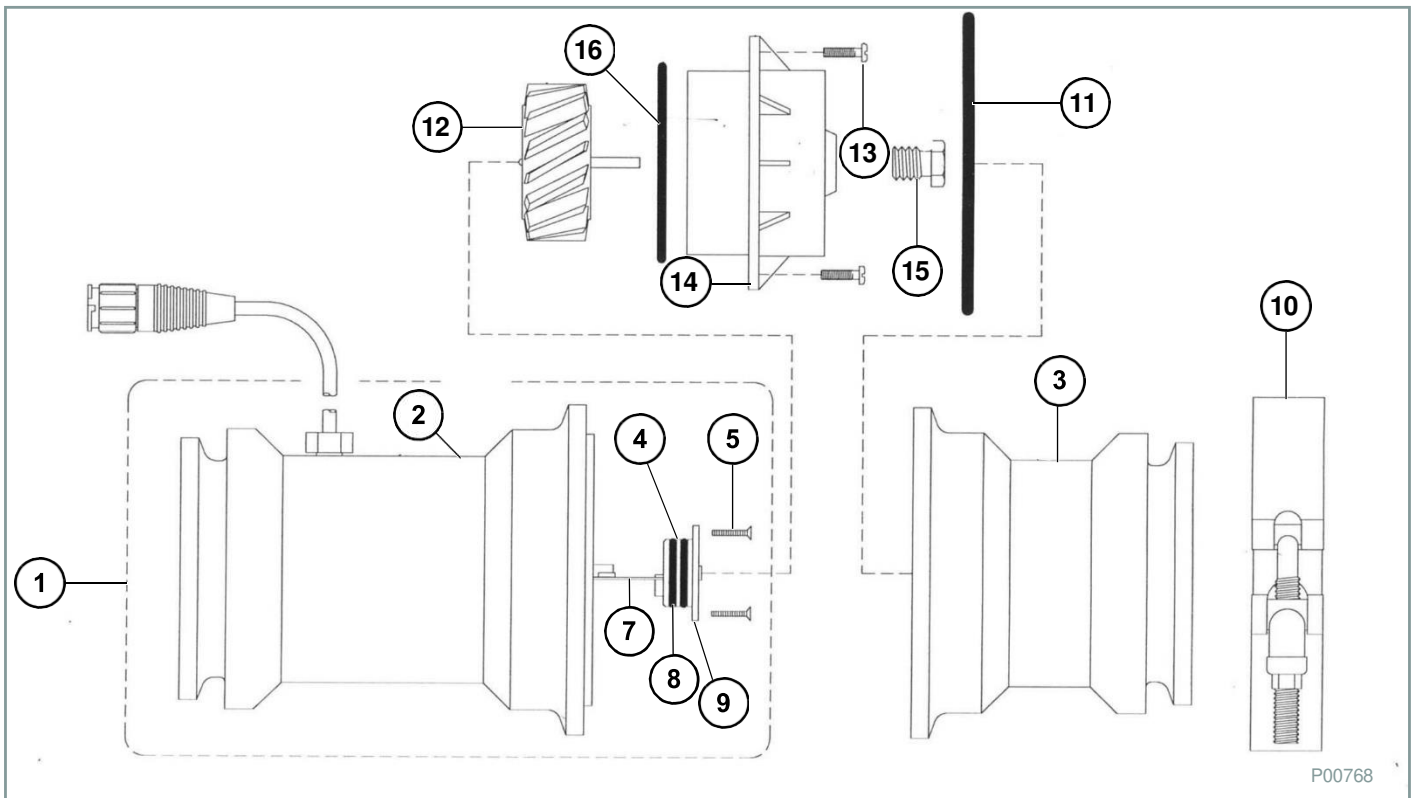


P00769

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|--|------|
| 1 | 106-0159-407 | VALVE COVER | 1 |
| 2 | 321-0000-256 | #6-32X3/4" LG.SCREW | 4 |
| 3 | 063-0159-409 | MOTOR ASSEMBLY | 1 |
| 4 | 321-0000-063 | WOODRUFF KEY | 1 |
| 5 | 063-0171-893 | COUPLER SHAFT ASSEMBLY (1-1/2 IN. VALVE) | 1 |
| 6 | 219-0000-020 | SEAL TETRASEAL | 1 |
| 7 | 063-0171-892 | VALVE BODY ASSEMBLY (1-1/2 IN. VALVE) | 1 |
| 8 | 106-0159-414 | BUTTERFLY (1-1/2 IN. VALVE) | 1 |
| 9 | 063-0159-457 | ISOLATION FLANGE ASSEMBLY | 1 |
| NS | 117-0159-739 | ISO BODY KIT (1-1/2 IN. VALVE) | 1 |
| NS | 115-0159-415 | POLARITY REVERSAL JUMPER | 1 |
| NS | 222-1001-050 | LOCTITE RC-609® | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

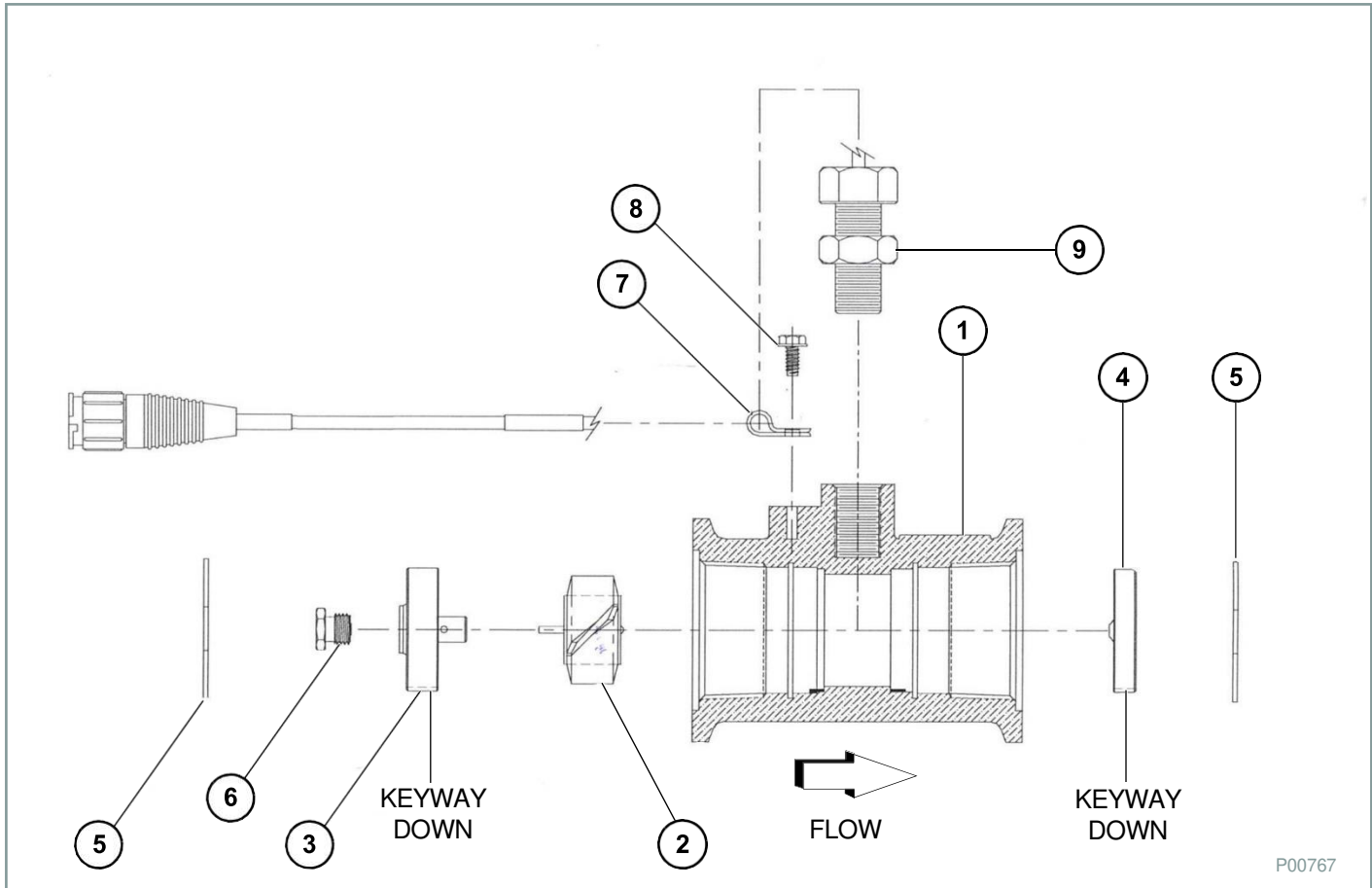
Flowmeter, Raven, RFM100 P Assembly (063-0171-066) 631801



| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|--|------|
| 1 | 063-0171-068 | OUTLET HOUSING ASSEMBLY | 1 |
| 2 | 107-0171-006 | OUTLET HOUSING | 1 |
| 3 | 107-0171-005 | HUB OUSING, INLET | 1 |
| 4 | 063-0171-069 | END BEARING/P.C. ASSEMBLY | 1 |
| 5 | 311-0013-390 | 2-56X1/5 IN. FLAT HD. S.S. SCREW | 2 |
| 6 | 117-0159-567 | END BEARING/P.C. ASSEMBLY KIT (CONTAINS ITEMS 4 AND 5) | 1 |
| 7 | 064-0159-913 | P.C. ASSEMBLY | 1 |
| 8 | 219-0002-018 | O-RING, VITRON | 1 |
| 9 | 063-0171-067 | END BEARING ASSEMBLY | 1 |
| 10 | 435-3003-032 | REATINING CLAMP | 1 |
| 11 | 219-0002-018 | O-RING, VITRON | 1 |
| 12 | 321-0000-221 | RFM 100 TURBINE | 1 |
| 13 | 310-0002-133 | 6-20X1/2" PAN HD. S.S. SCREW | 1 |
| 14 | 321-0000-222 | TURBINE HUB/BEARING ASSEMBLY | 1 |
| 15 | 063-0171-082 | TURBINE STUD ASSEMBLY | 1 |
| 16 | 219-0002-140 | O-RING, VITRON | 1 |
| NS | 107-0159-509 | MOUNTING BRACKET, RFM 100 | 1 |
| NS | 435-3003-009 | HOSE CLAMP | 1 |
| NS | 117-0159-441 | CABLE KIT | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

Flowmeter, Raven, RFM60 P Assembly (063-0171-793)

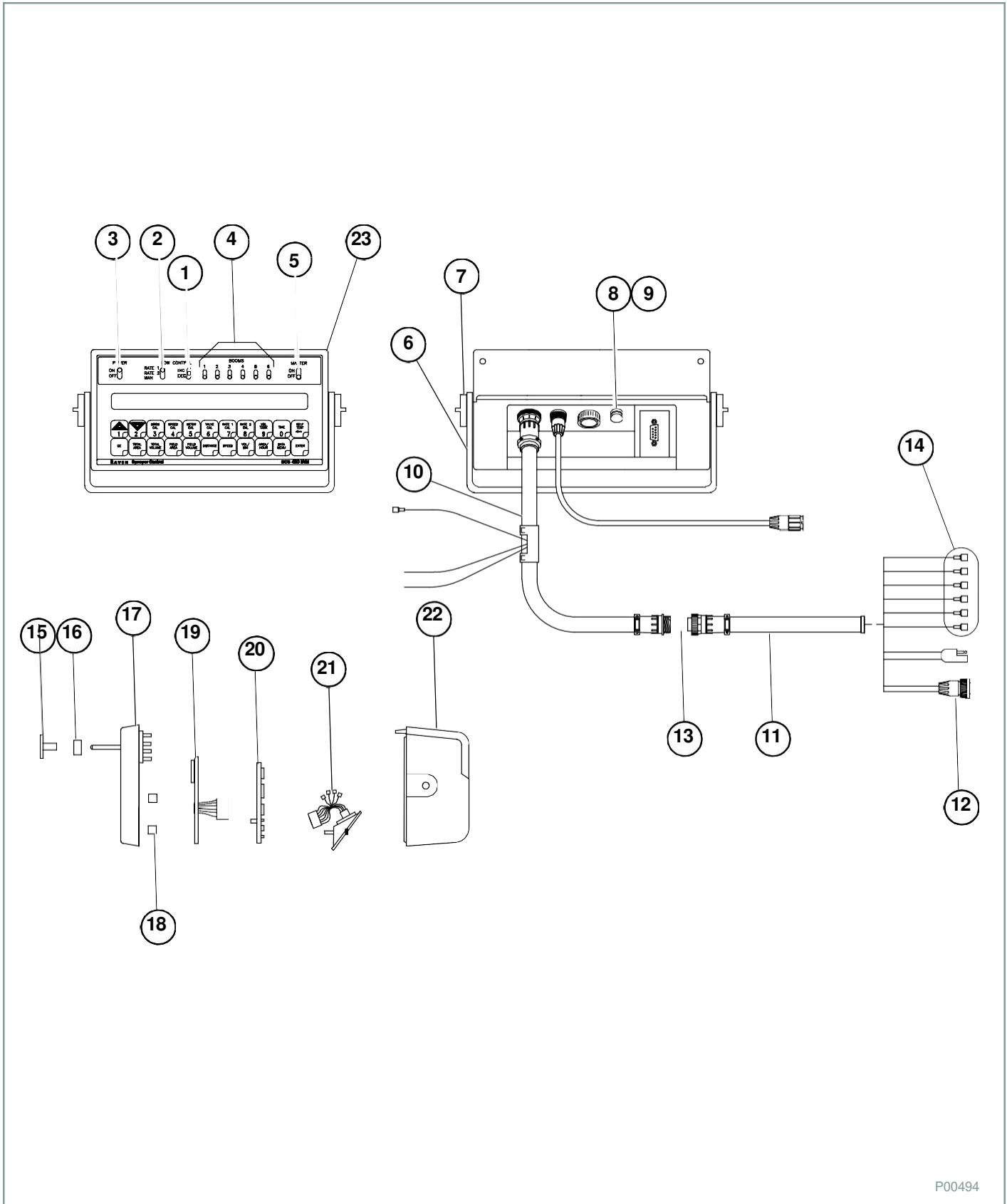


| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|----------------------------|------|
| 1 | 106-0159-514 | BODY, RFM 60 P FLOWMETER | 1 |
| 2 | 063-0171-673 | ROTOR/MAGNET ASSEMBLY | 1 |
| 3 | 063-0171-674 | HUB/BEARING ASSY. UPSTREAM | 1 |
| 4 | 063-0171-769 | HUB ASSEMBLY, DOWNSTREAM | 1 |
| 5 | 335-0000-278 | RING, RETAINING, INTERNAL | 1 |
| 6 | 063-0159-573 | STUD BEARING | 1 |
| 7 | 435-3002-017 | CLAMP, CABLE | 1 |
| 8 | 310-0002-137 | SCREW, THREAD FORMING | 1 |
| 9 | 063-0171-669 | SENSO, ASSEMBLY, EXTERNAL | 1 |



ILLUSTRATED PARTS LIST (CONT'D)

Raven SCS450 Console



P00494

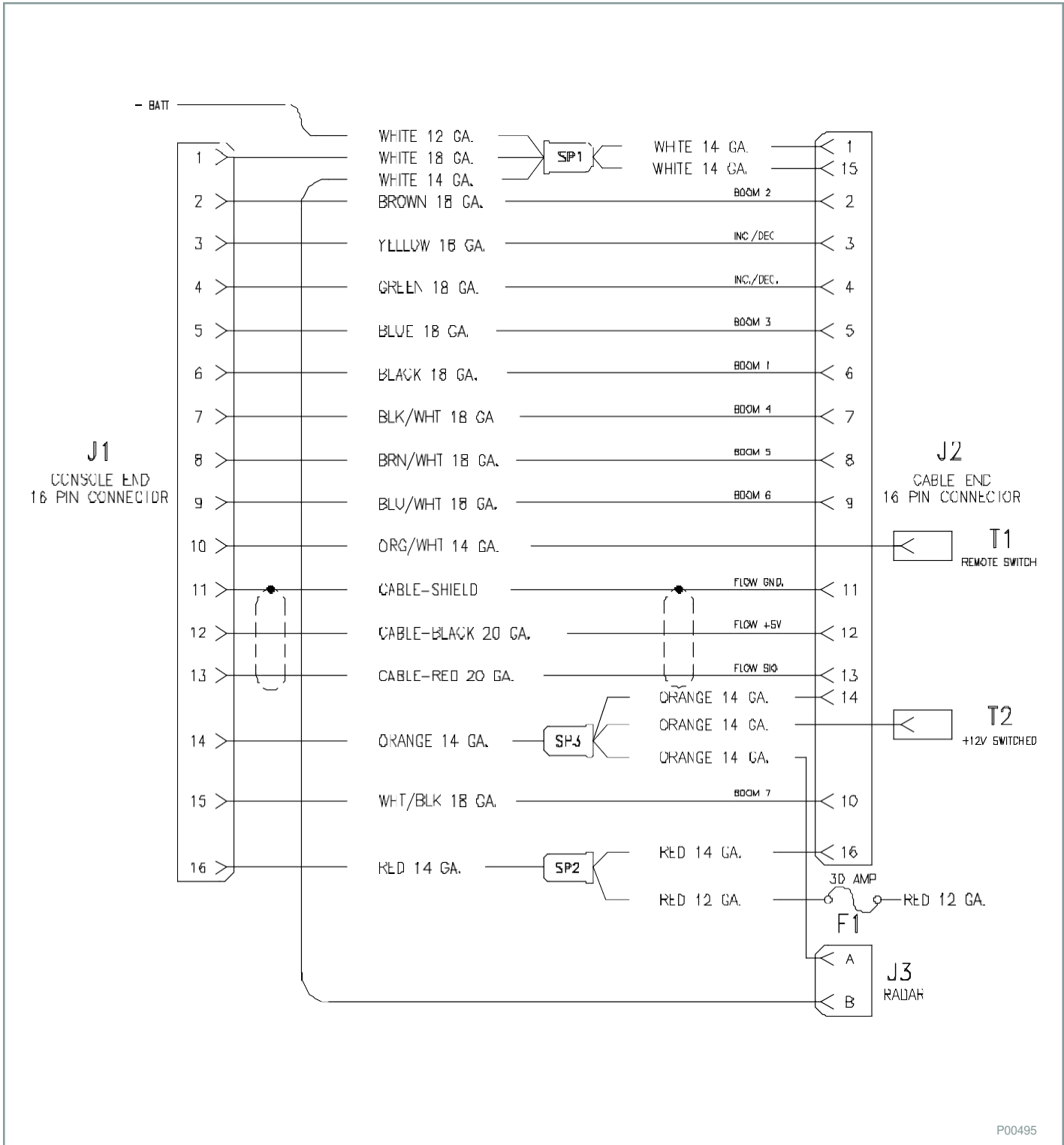
ILLUSTRATED PARTS LIST (CONT'D)

Raven SCS450 Console (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|---|------|
| 1 | 412-2011-049 | MANUAL ADJ. SWITCH | 1 |
| 2 | 019-0159-078 | RATE1/RATE2/MANUAL SWITCH | 1 |
| 3 | 412-2011-048 | POWER SWITCH | 1 |
| 4 | 412-2003-010 | BOOM SWITCH | 6 |
| 5 | 412-2011-046 | MASTER SWITCH | 1 |
| 6 | 106-0159-437 | MOUNTING BRACKET | 1 |
| 7 | 106-0159-438 | MOUNTING KNOB | 2 |
| 8 | 510-2001-018 | FUSE HOLDER | 1 |
| 9 | 510-1003-003 | FUSE, 15 AMP. | 1 |
| 10 | 115-0159-492 | CONSOLE CONTROL CABLE (10 FT.) | 1 |
| | 115-0159-707 | CONSOLE CONTROL CABLE (3 FT.) | 1 |
| 11 | 115-0159-495 | FLOW CONTROL CABLE (6 FT.) | 1 |
| | 115-0159-496 | FLOW CONTROL CABLE (12 FT.) | 1 |
| | 115-0159-708 | FLOW CONTROL CABLE (24 FT.) | 1 |
| 12 | 115-0159-016 | FLOW METER CABLE EXT. (6 FT.) | 1 |
| | 115-0159-017 | FLOW METER CABLE EXT. (12 FT.) | 1 |
| 13 | 115-0159-493 | FLOW EXT. CABLE (12 FT.) | 1 |
| | 115-0159-494 | FLOW EXT. CABLE (24 FT.) | 1 |
| 14 | 117-0159-402 | ASSORTED TERMINAL KIT | 6 |
| 15 | 063-0159-734 | SWITCH COVER | 1 |
| 16 | 117-0159-421 | 1-SET FILLER SPACERS | 1 |
| 17 | 063-0172-024 | FACE PLATE ASSEMBLY | 1 |
| 18 | 107-0159-478 | DISPLAY BOARD SPACER | 2 |
| 19 | 063-0171-961 | LCD DISPLAY BOARD | 1 |
| 20 | 064-0159-745 | PROCESSOR BOARD (SERIAL INTERFACE) | 1 |
| 21 | 063-0172-022 | CONNECTOR PLATE ASSEMBLY (SERIAL INTERFACE) | 1 |
| 22 | 063-0159-530 | BACK ASSEMBLY | 1 |
| 23 | 063-0171-220 | SCS 450 CONSOLE (SERIAL INTERFACE) | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

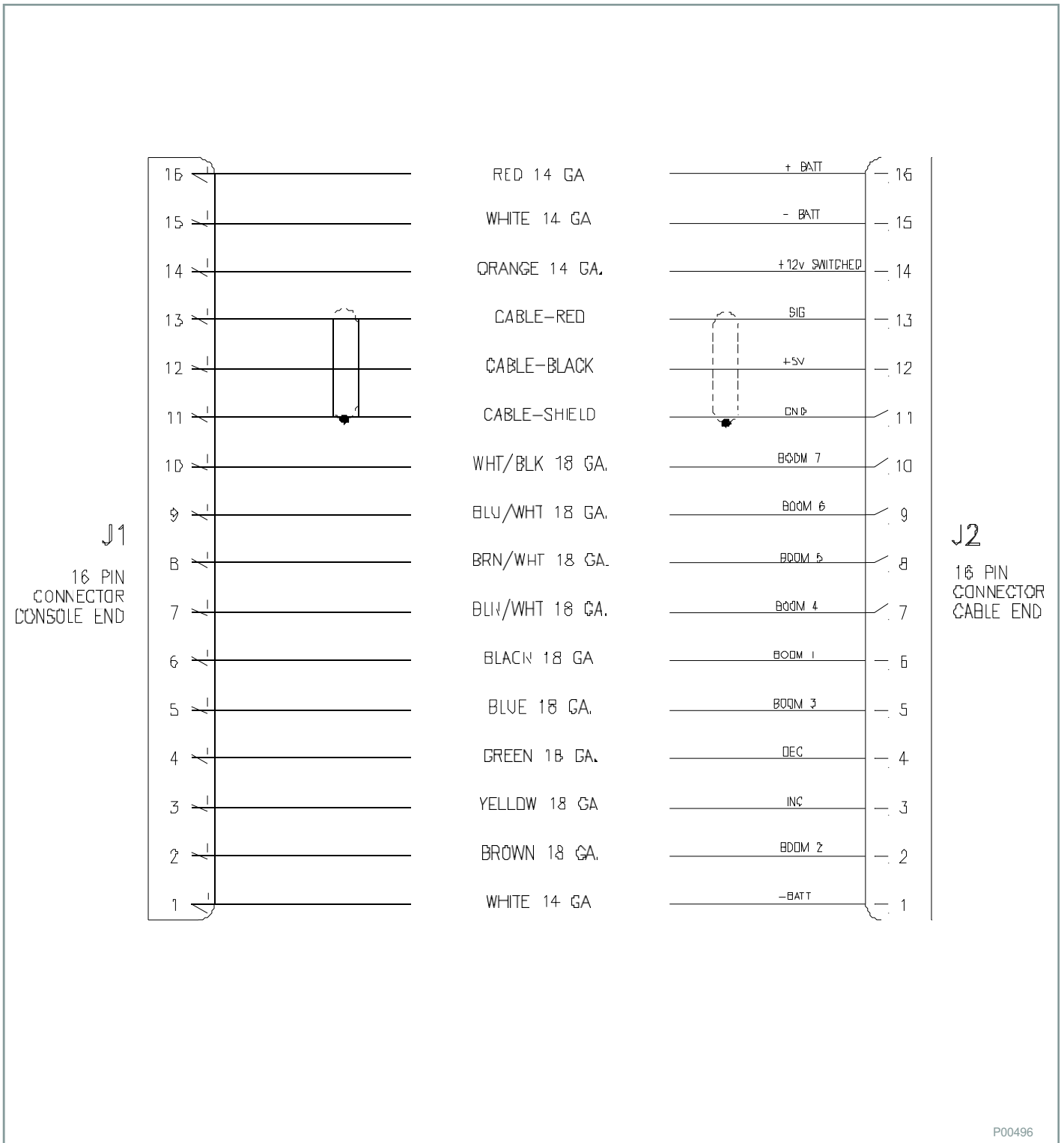
Electrical Schematic Control Console Harness (155-0171-085)



P00495

SYSTEM SCHEMATICS

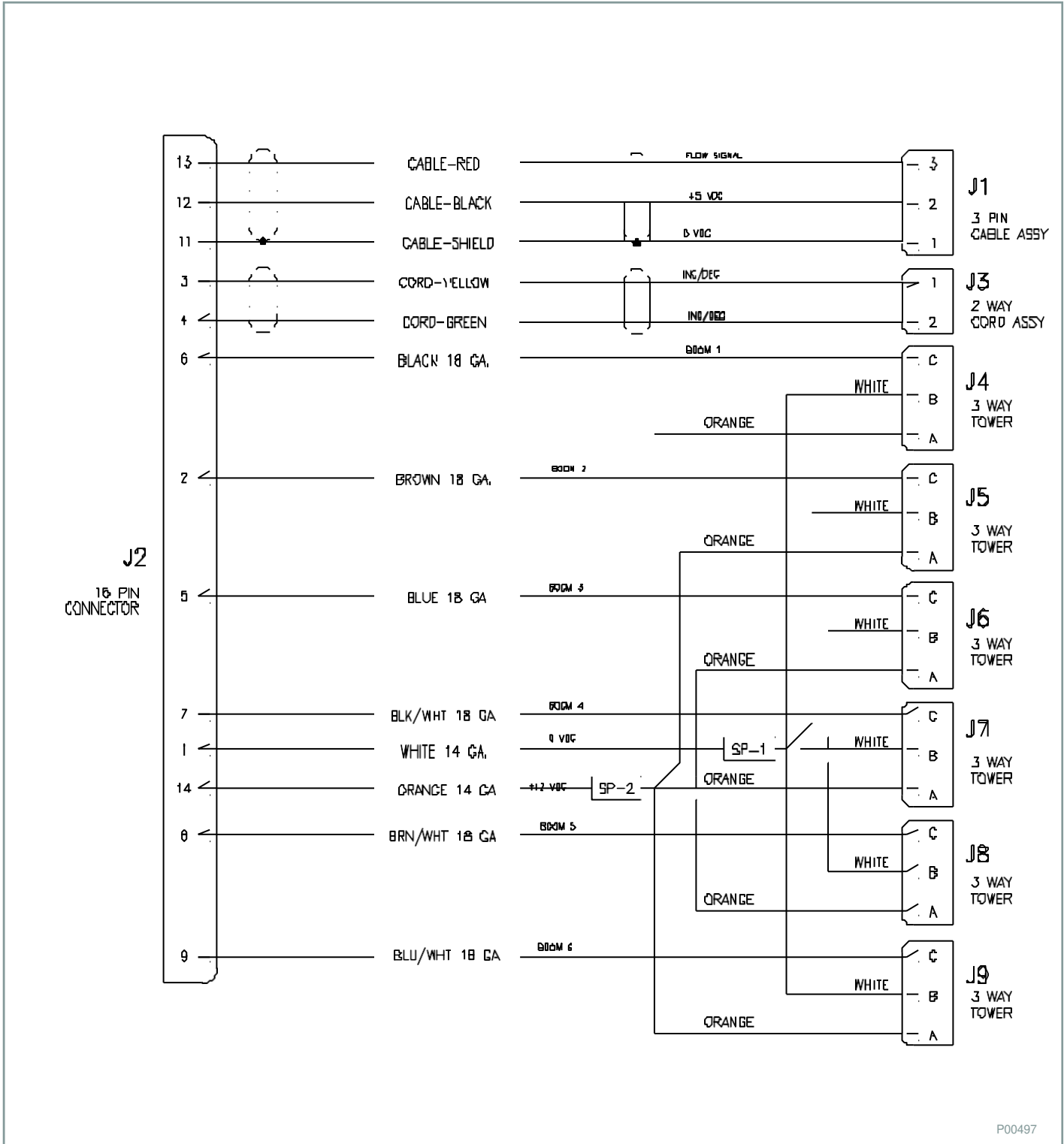
Electrical Schematic Control Console Harness (155-0159-856)



P00496

SYSTEM SCHEMATICS

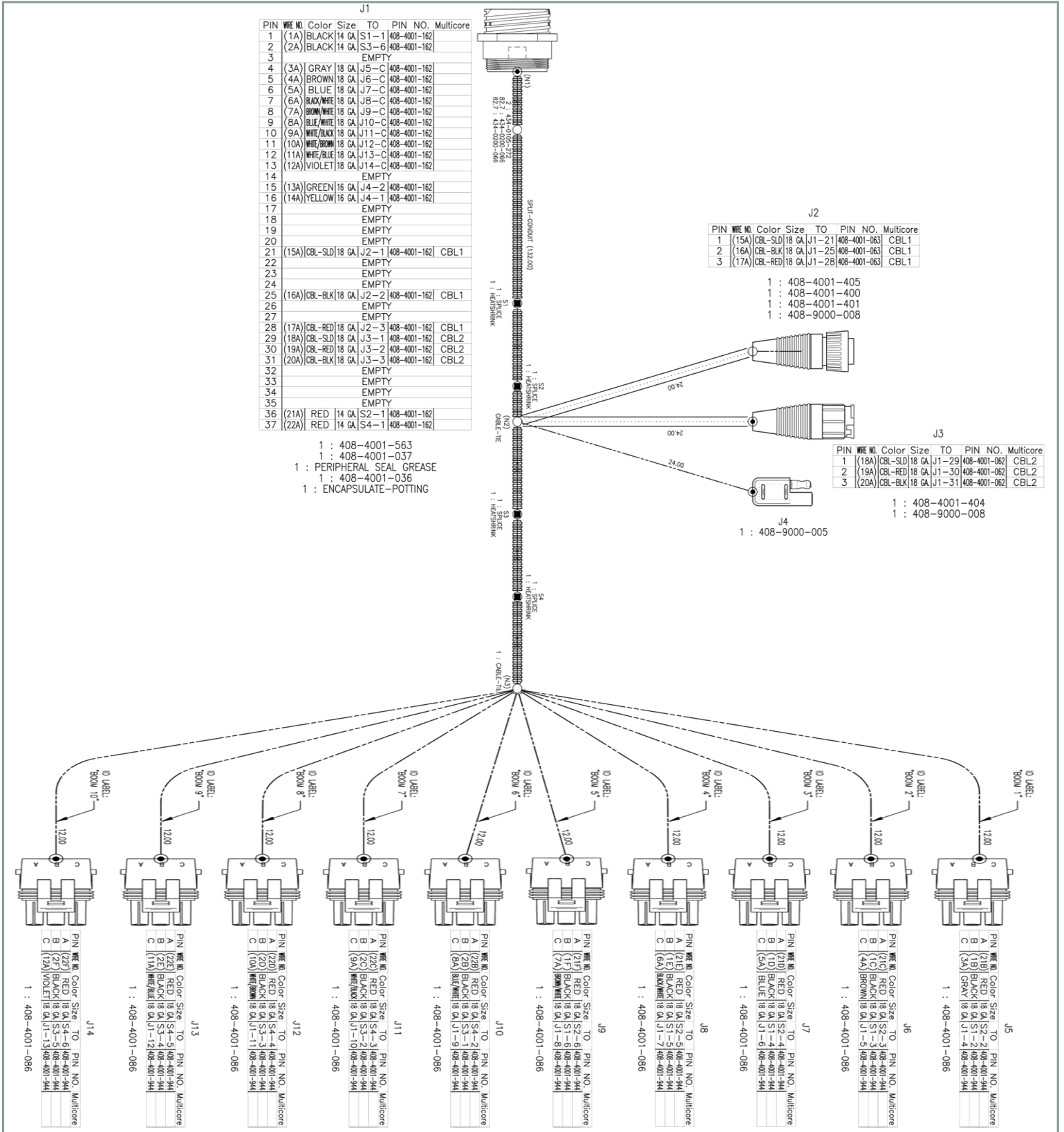
Electrical Schematic Control Console Harness (155-0171-086)





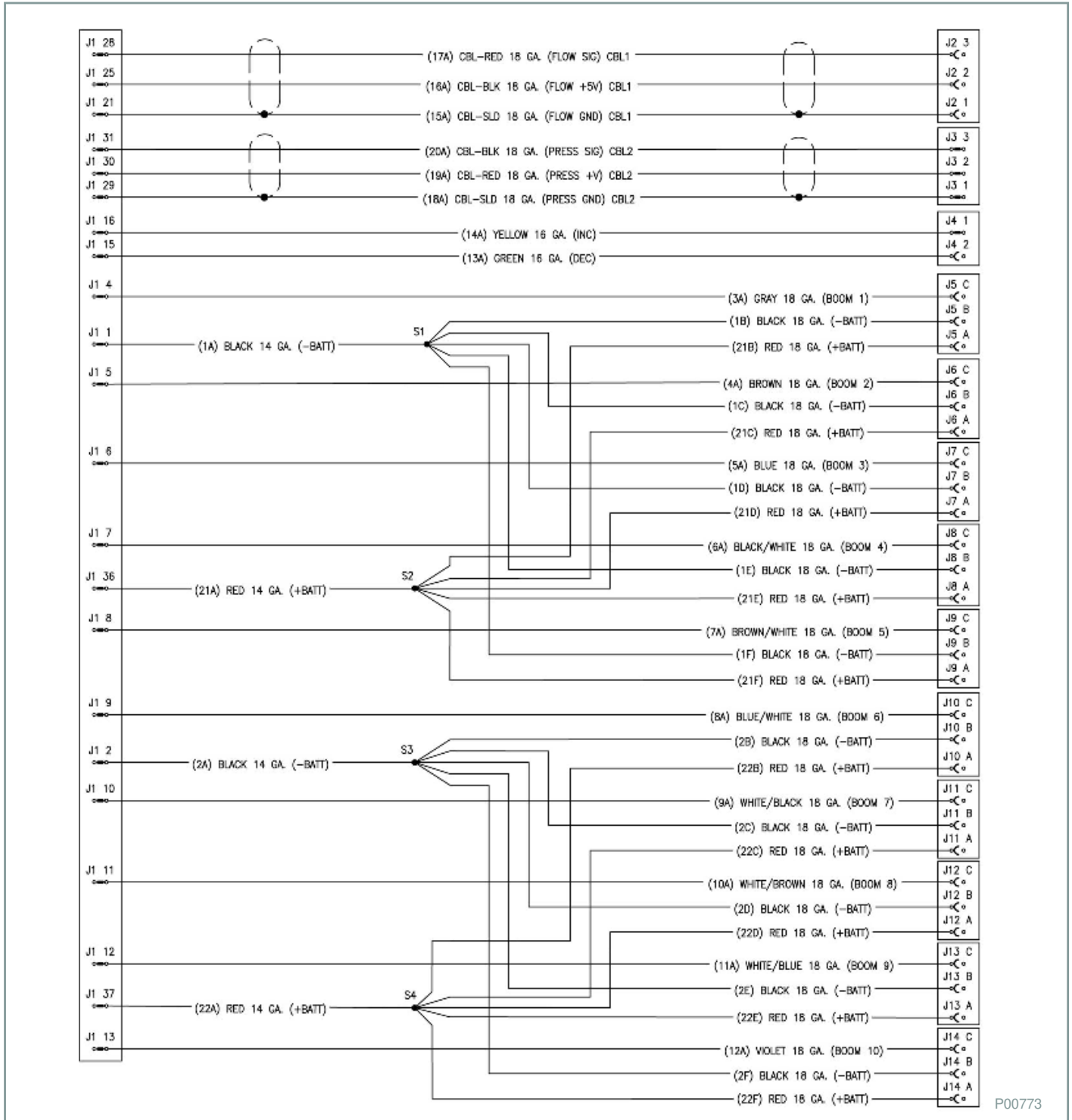
ILLUSTRATED PARTS LIST (CONT'D)

Raven, Cable 12 Ft. Product, 10 Boom Assembly (115-0171-313)



ILLUSTRATED PARTS LIST (CONT'D)

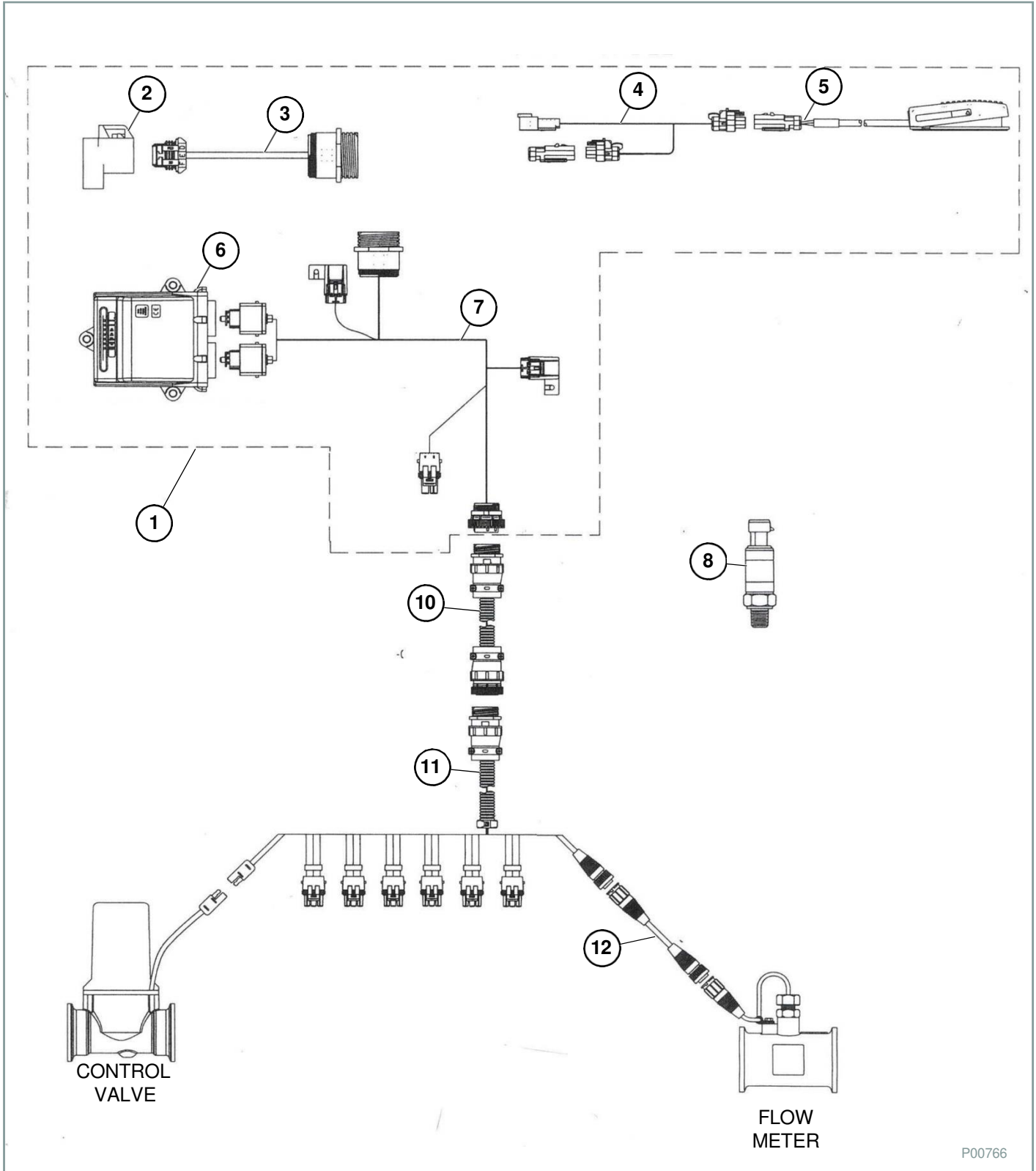
Raven, Cable 12 Ft. Product, 10 Boom Assembly (115-0171-313) (Cont'd)



P00773

ILLUSTRATED PARTS LIST (CONT'D)

Product Controller Liquid System, 16 Pin Product Cable



ILLUSTRATED PARTS LIST (CONT'D)

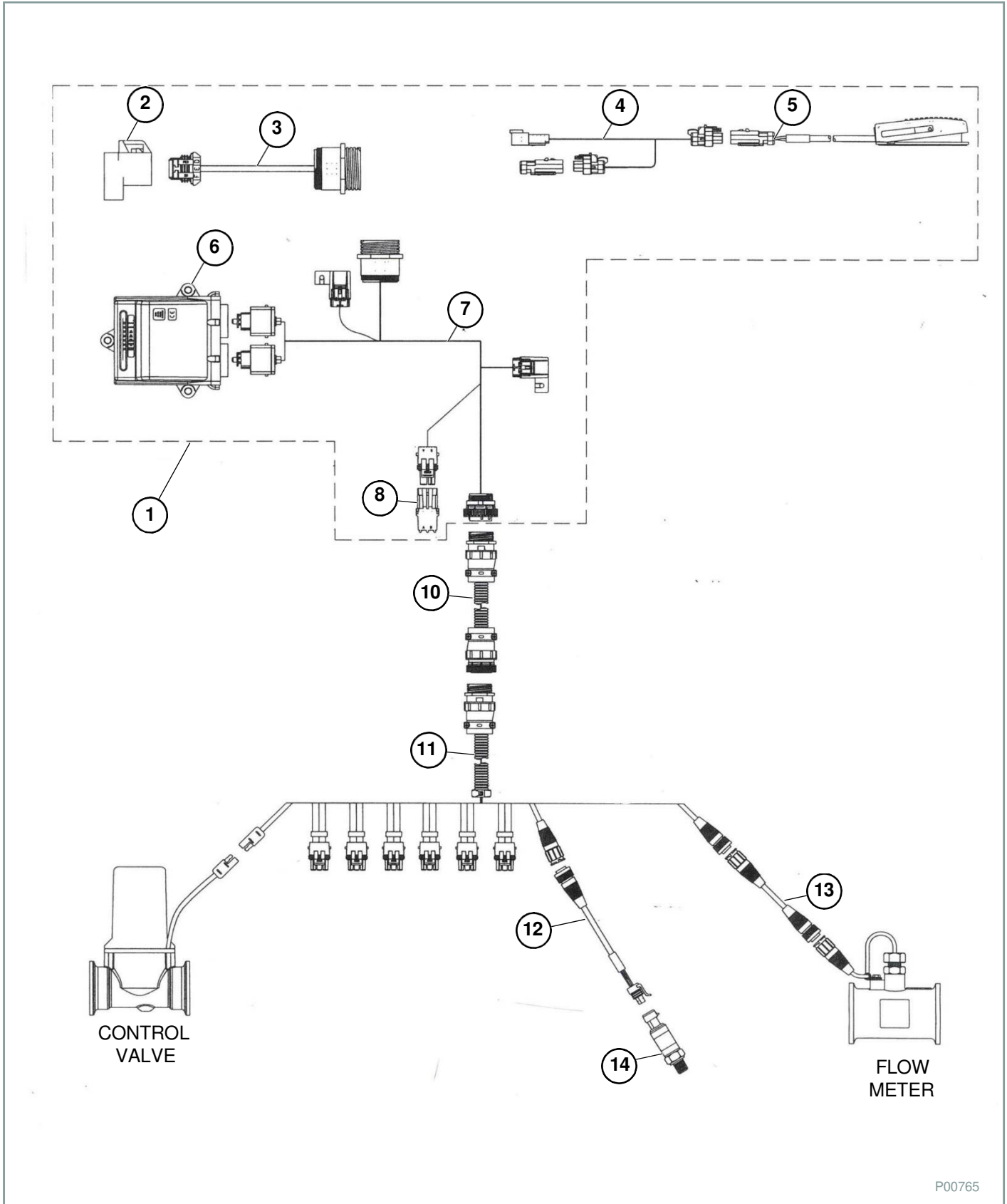
Product Controller Liquid System, 16 Pin Product Cable (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|--|------|
| 1* | 117-6100-001 | KIT, PRODUCT CONTROLLER, LIQUID 16 PIN | 1 |
| 2 | 063-0172-964 | TERMINATOR, ACTIVE, POWELL | 1 |
| 3 | 115-0171-963 | CABLE, RAVEN ISO TO ACTIVE TERMINATOR | 1 |
| 4 | 115-0171-865 | 22 FT. FOOT SWITCH EXT | 1 |
| 5 | 063-0173-080 | FOOT SWITCH ISO NODE | 1 |
| 6 | 063-0173-006 | ISO PRODUCT CONTROLLER NODE | 1 |
| 7 | 115-0171-949 | PROD. CONTROLLER CABLE, 16 PIN | 1 |
| 8 | 422-0000-090 | PRESSURE SENSOR (OPTIONAL) | 1 |
| 9 | 016-0171-362 | PRODUCT CONTROLLER MANUAL (NOT SHOWN) | 1 |
| 10 | 115-0159-856 | 12 FT. EXTENSION CABLE | 1 |
| | 115-0159-857 | 24 FT. EXTENSION CABLE | |
| 11 | 115-0171-086 | 12 FT. FLOW CABLE | 1 |
| | 115-0171-129 | 24 FT. FLOW CABLE | |
| 12 | 115-0159-016 | 6 FT. FLOW EXTENSION CABLE | 1 |
| | 115-0159-017 | 12 FT. FLOW EXTENSION CABLE | |
| | 115-0159-019 | 24 FT. FLOW EXTENSION CABLE | |
| | 115-0171-544 | 36.5 FT. FLOW EXTENSION CABLE | |

*-Kit contains items 2 through 9.

ILLUSTRATED PARTS LIST (CONT'D)

Product Controller Liquid System, 37 Pin Product Cable



P00765

ILLUSTRATED PARTS LIST (CONT'D)

Product Controller Liquid System, 37 Pin Product Cable (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|---|------|
| 1* | 117-6100-002 | KIT, PRODUCT CONTROLLER, LIQUID/GRANULAR 37 PIN | 1 |
| 2 | 063-0172-964 | TERMINATOR, ACTIVE, POWELL | 1 |
| 3** | 115-0171-963 | CABLE, RAVEN ISO TO ACTIVE TERMINATOR | 1 |
| 4 | 115-0171-865 | 22 FT. FOOT SWITCH EXT | 1 |
| 5 | 063-0173-080 | FOOT SWITCH ISO NODE | 1 |
| 6 | 063-0173-006 | ISO PRODUCT CONTROLLER NODE | 1 |
| 7*** | 115-0171-945 | PROD. CONTROLLER CABLE, 37 PIN | 1 |
| 8 | NA | DUST CAP | 1 |
| 9 | 016-0171-362 | PRODUCT CONTROLLER MANUAL (NOT SHOWN) | 1 |
| 10 | 115-0171-319 | 12 FT. EXTENSION CABLE | 1 |
| | 115-0171-320 | 24 FT. EXTENSION CABLE | |
| 11 | 115-0171-313 | 12 FT. FLOW CABLE 10 BOOM | 1 |
| | 115-0171-314 | 24 FT. FLOW CABLE 10 BOOM | |
| | 115-0171-315 | 12 FT. FLOW CABLE 5 BOOM | |
| | 115-0171-316 | 24 FT. FLOW CABLE 5 BOOM | |
| 12 | 115-0171-235 | 6 FT. PRESSURE SENSOR CABLE | 1 |
| | 115-0171-151 | 12 FT. PRESSURE SENSOR CABLE | |
| | 115-0171-224 | 37 FT. PRESSURE SENSOR CABLE | |
| | 115-0171-296 | 44 FT. PRESSURE SENSOR CABLE | |
| 13**** | 115-0159-016 | 6FT. FLOW EXTENSION CABLE | 1 |
| | 115-0159-017 | 6FT. FLOW EXTENSION CABLE | |
| | 115-0159-019 | 6FT. FLOW EXTENSION CABLE | |
| | 115-0171-544 | 6FT. FLOW EXTENSION CABLE | |
| 14 | 422-0000-090 | PRESSURE SENSOR (OPTIONAL) | 1 |

* -- Kit contains items 2 through 9.

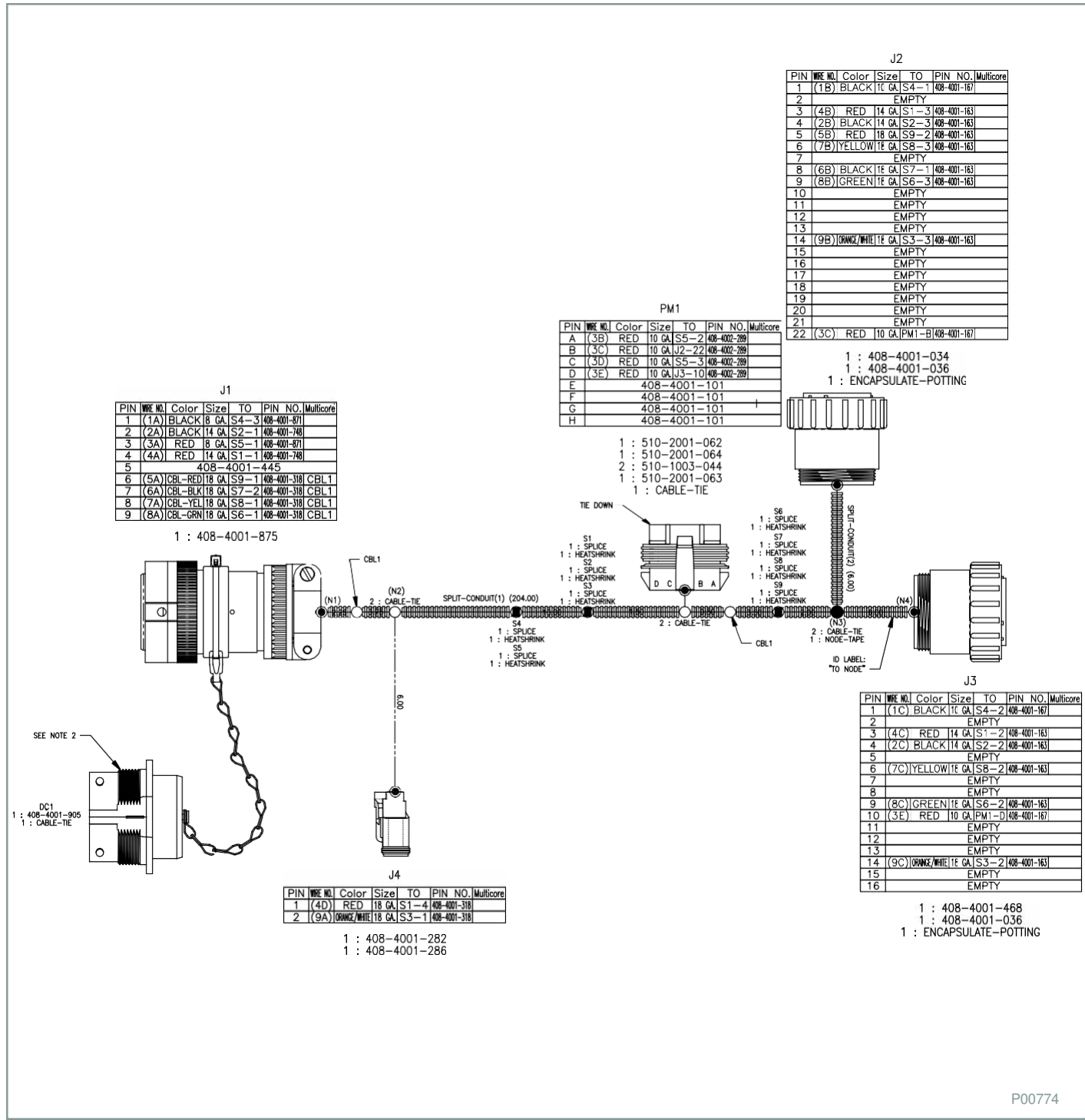
** -- For more information on the cable see Raven, Cable, Adapter, ISO To Active Terminator Assembly (115-0171- 963) on Page 144.

*** -- For more information on the cable see Raven, Cable 4400/4600 Interface, 37 Pin Product Controller Assembly (115-0171-945) on Page 142.

* -- Can be used for pressure sensor extensions.

ILLUSTRATED PARTS LIST (CONT'D)

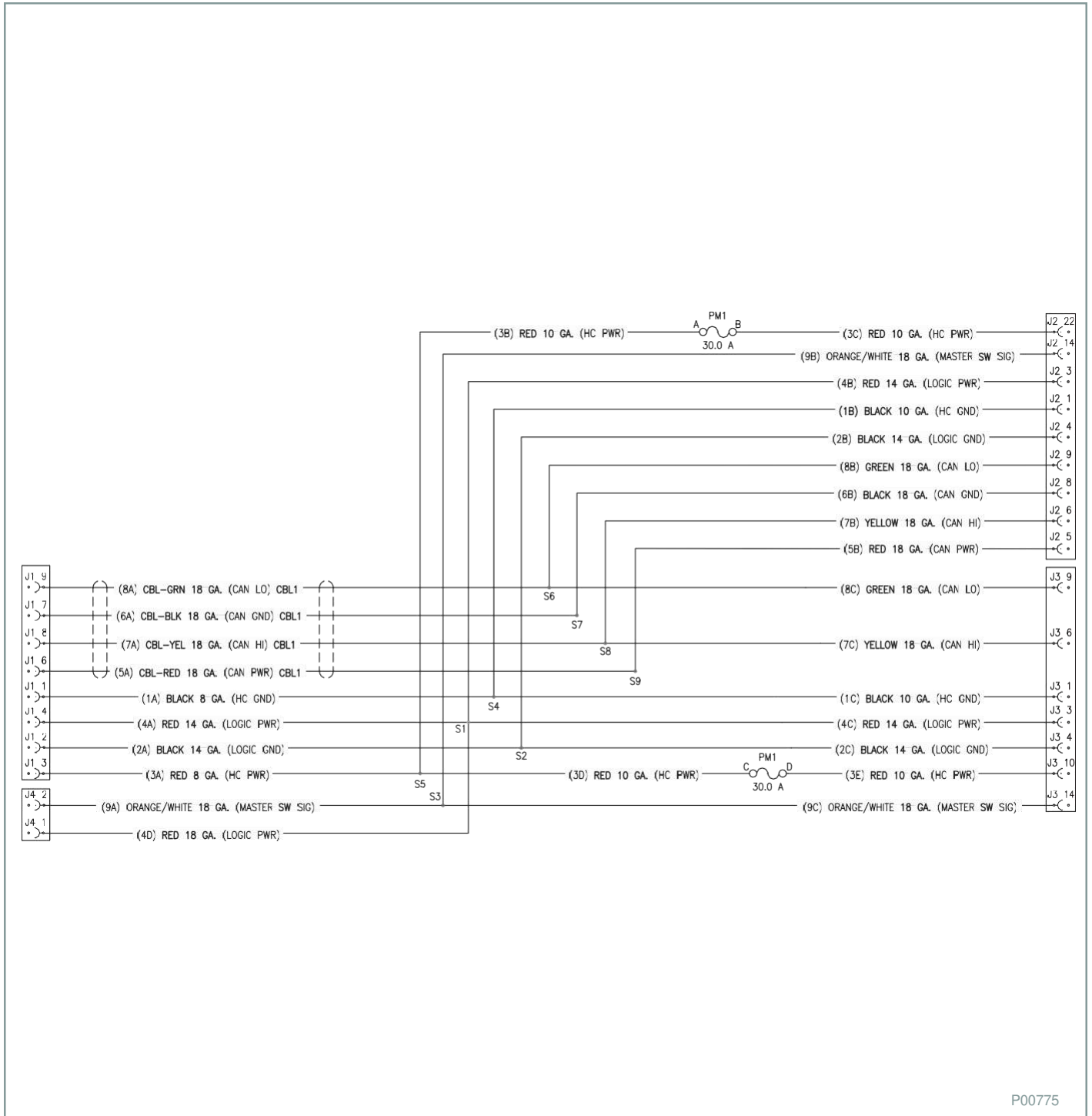
Cable, 17 Ft., ISO, Hitch To Raven ECU Assembly (115-0172-034)



| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|--|------|
| 1 | 115-0172-034 | RAVEN, CABLE, 17 FT., ISO, HITCH TO RAVEN ECU ASSEMBLY | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

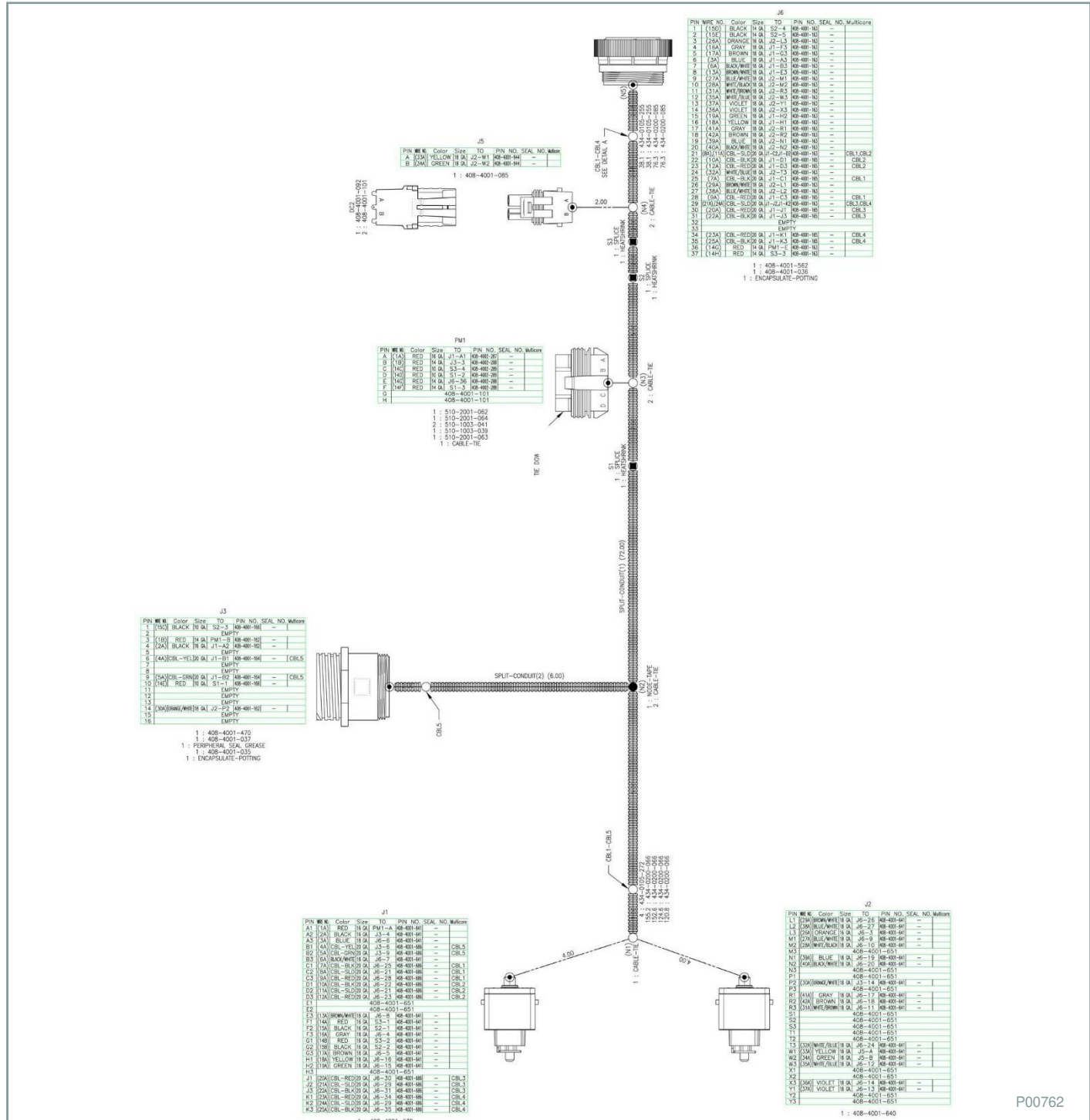
Cable, 17 Ft., ISO, Hitch To Raven ECU Assembly (115-0172-034) (Cont'd)



P00775

ILLUSTRATED PARTS LIST (CONT'D)

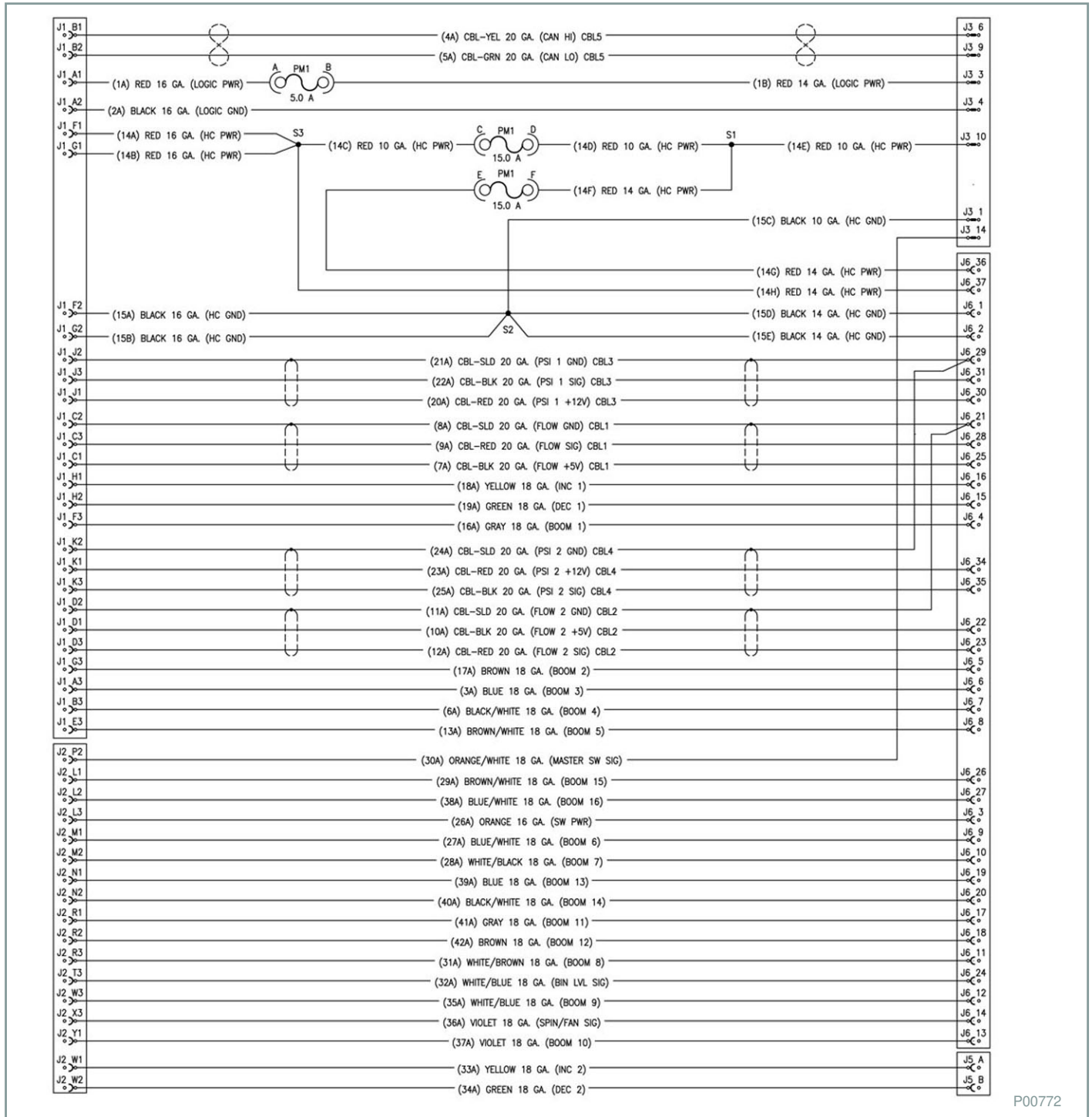
Raven, Cable 4400/4600 Interface, 37 Pin Product Controller Assembly (115-0171-945)



P00762

ILLUSTRATED PARTS LIST (CONT'D)

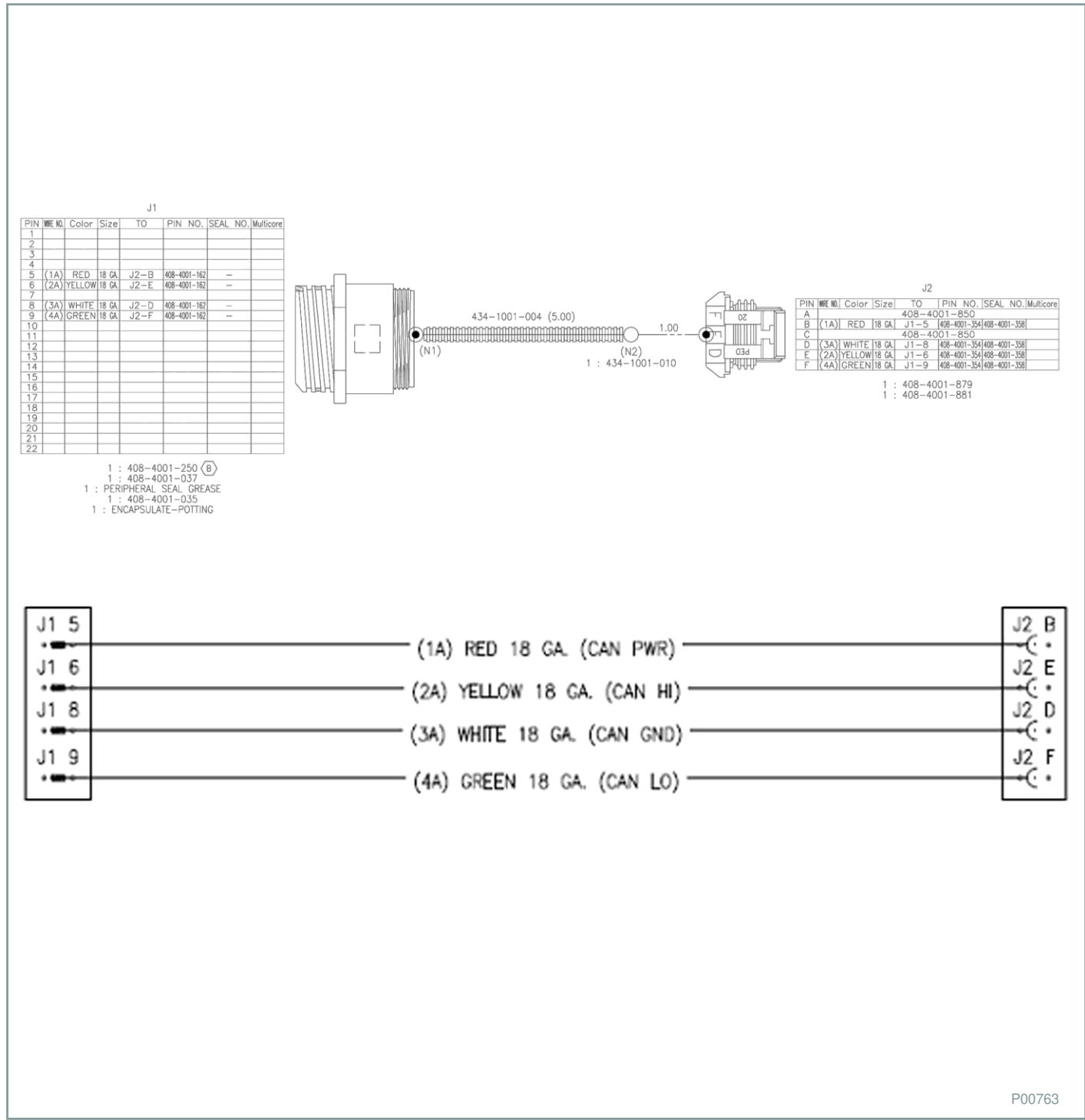
Raven, Cable 4400/4600 Interface, 37 Pin Product Controller Assembly (115-0171-945) (Cont'd)



P00772

ILLUSTRATED PARTS LIST (CONT'D)

Raven, Cable, Adapter, ISO To Active Terminator Assembly (115-0171-963)



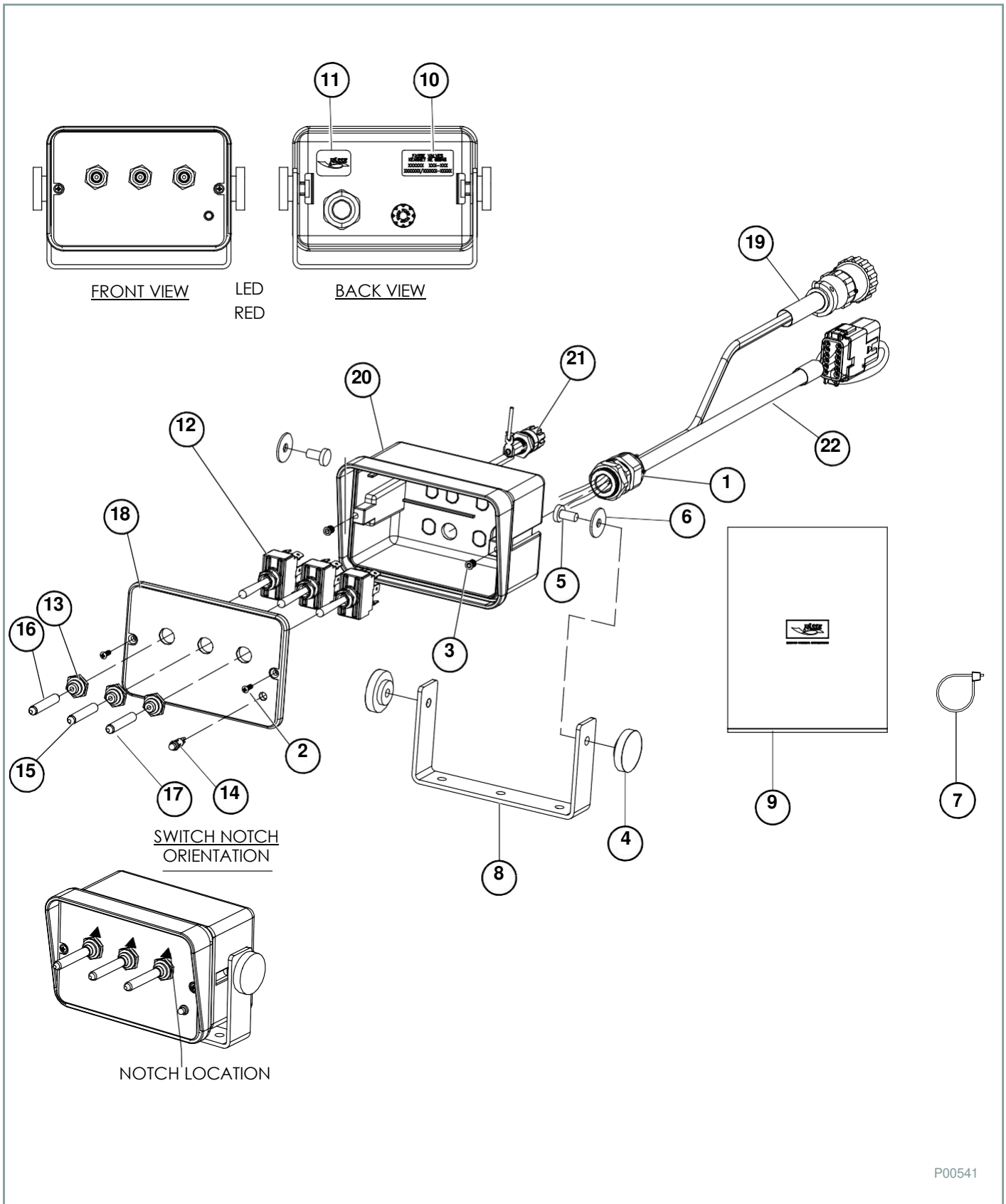
P00763

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|--|------|
| 1 | 115-0171-963 | RAVEN, CABLE ISO TO ACTIVE TERMINATOR ASSEMBLY | 1 |



ILLUSTRATED PARTS LIST (CONT'D)

Fold Control Cab Box (304-041)



P00541

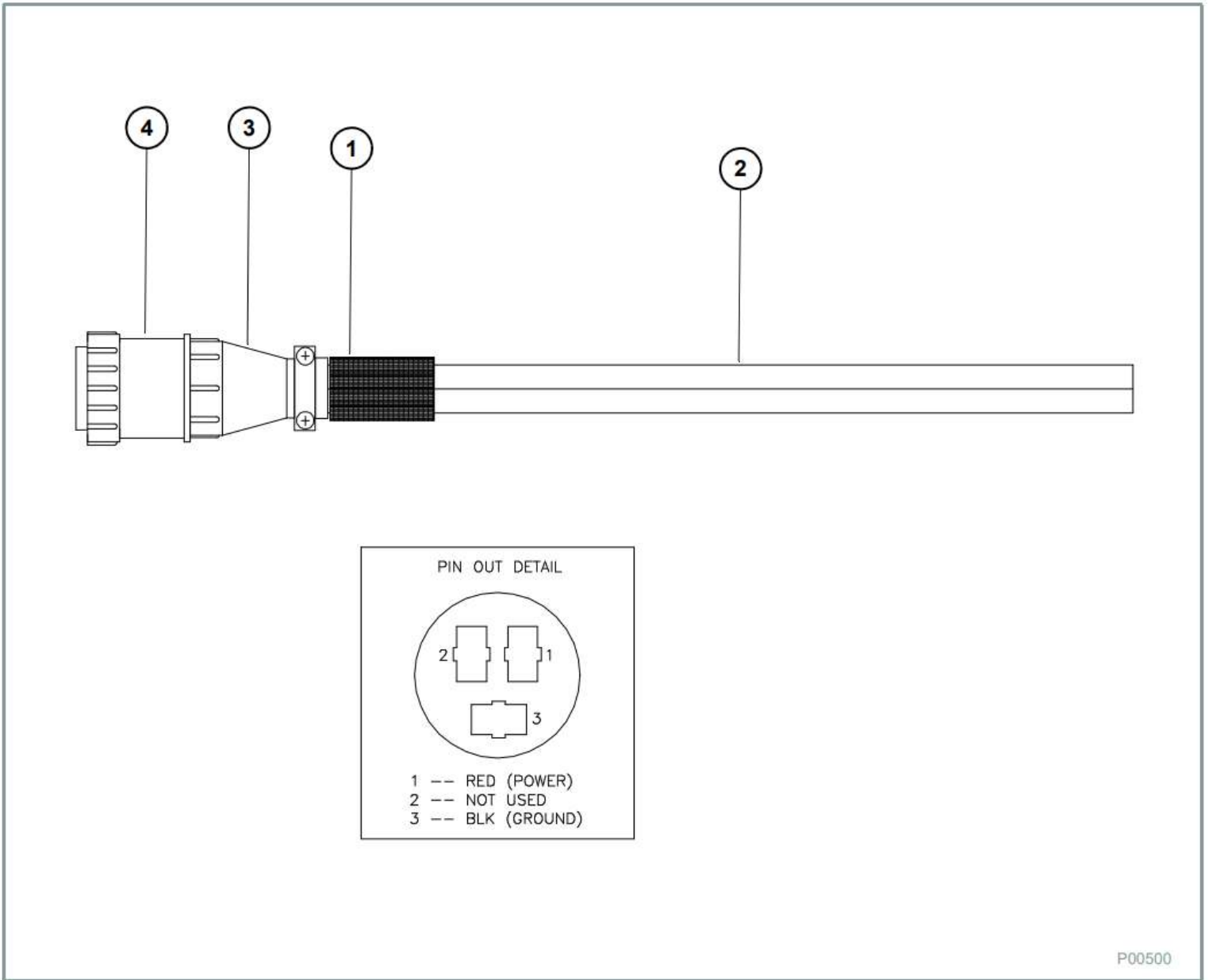
ILLUSTRATED PARTS LIST (CONT'D)

Fold Control Cab Box (304-041) (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|--|------|
| 1 | 210-710 | STR RLF HEYCO 0.23 - 0.53 ID HOLE DIA 0.886 | 1 |
| 2 | 212-184 | SCREW 6-32 X 3/8 OVAL HD BLK | 2 |
| 3 | 212-202 | INSERT 6-32 X 3/8 BRASS | 2 |
| 4 | 212-215 | KNOB 1/4-20 FEMALE | 2 |
| 5 | 212-231 | SCREW, WELDED 1/4-20 X 0.500 | 2 |
| 6 | 213-335 | WASHER NYLON 0.257 X 0.875 X 0.060 | 2 |
| 7 | 214-002 | CABLE TIE BLACK 7" | 3 |
| 8 | 219-300 | BRACKET HOUSING MONITOR | 1 |
| 9 | 230-057 | BAG POLY CLEAR 14 X 18 2 MIL W/LOGO | 1 |
| 10 | 232-050 | DECAL S/N SILVER | 2 |
| 11 | 232-058 | DECAL GOLD/BLACK 1 X 0.75 | 1 |
| 12 | 250-013 | SW TOG DPDT 3P MOM LONG | 3 |
| 13 | 250-023 | SW TOG BOOT OPN GREY | 4 |
| 14 | 254-350 | LED RED T-1 3/4 PANEL MNT 12V 6 IN. LEADS | 1 |
| 15 | 259-022 | SW TOG GRIP VINYL YELLOW 0.187 | 1 |
| 16 | 259-023 | SW TOG GRIP VINYL GREEN 0.187 | 1 |
| 17 | 259-027 | SW TOG GRIP VINYL GREY 0.187 | 1 |
| 18 | 304-040 | ENCL DRILL FP MNTR SW3 F00204 | 1 |
| 19 | 314-001 | HRN 2CON 14GA AMP PLUG 3P(2) 8' | 1 |
| 20 | 319-725 | ENCL DRILL MNTRBX FH-7/8" STR RLF | 1 |
| 21 | 319-769 | FUSE HOLDER PM ASSM. 10A /.5' | 1 |
| 22 | 320-714 | HRN 12CON 18GA KEY A DTP12P(12) 11' END CAP F00204 | 1 |
| NS | 304-041 | CAB BOX COMPLETE (CONTAINS ITS 1-22) | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

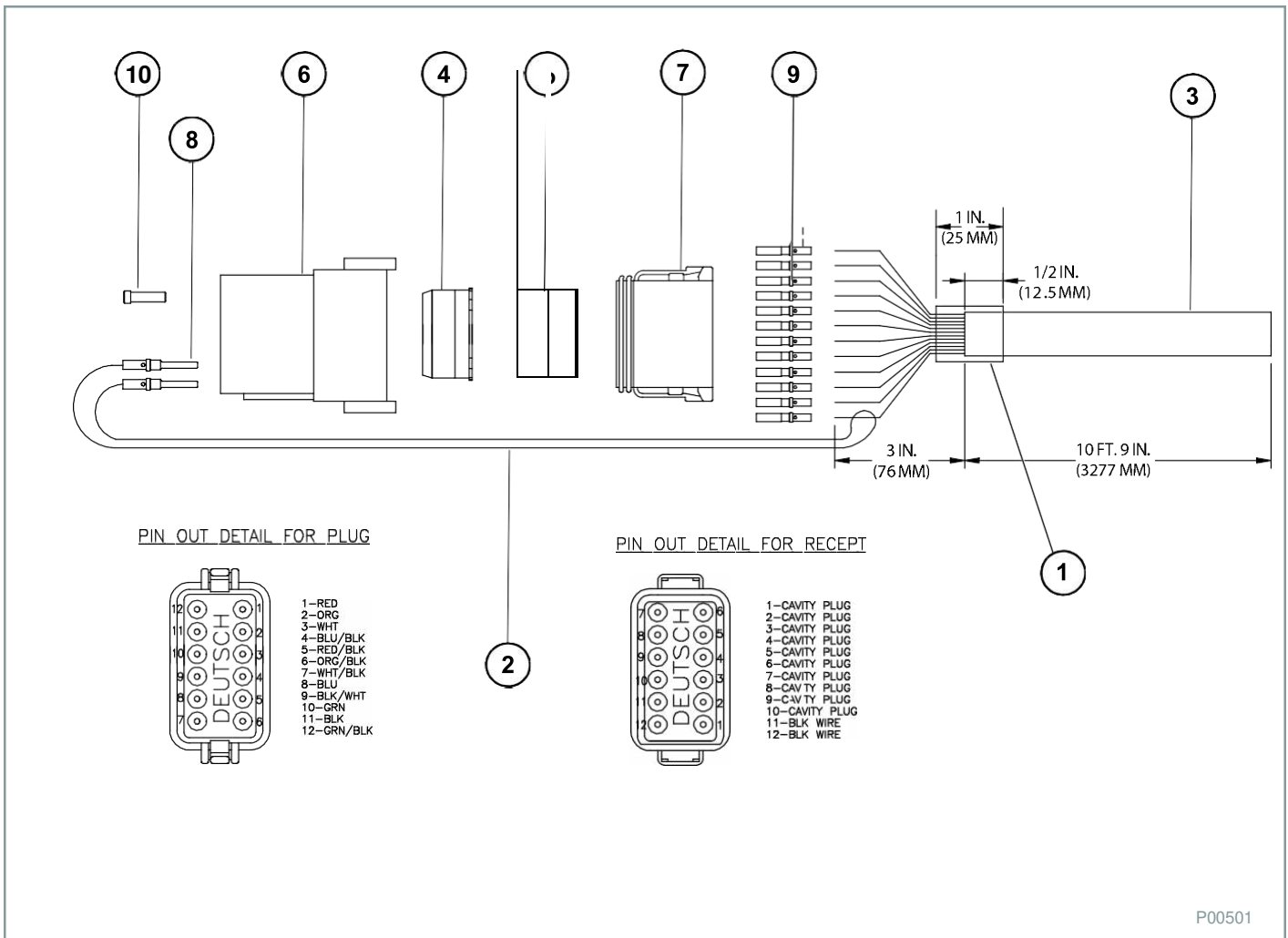
Wiring Harness Connection (314-217)



| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|--|------|
| 1 | 230-250 | SHRINK TUBING 0.250 BLACK 2 IN. (51 MM) | 1 |
| 2 | 252-021 | WIRE RED/BLACK 16 GA ZIP 8 FT. (2439 MM) | 1 |
| 3 | 255-043 | CENTER 16 PIN SHELL #17 | 1 |
| NS | 255-233 | CENTER AMP SOCKET | 1 |
| 5 | 255-549 | CENTER SERIES 3 17-3 PLUG | 1 |
| 5 | 314-217 | POWER HARNESS (CONTAINS ITEMS 1-5) | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

Harness Connector (319-759)

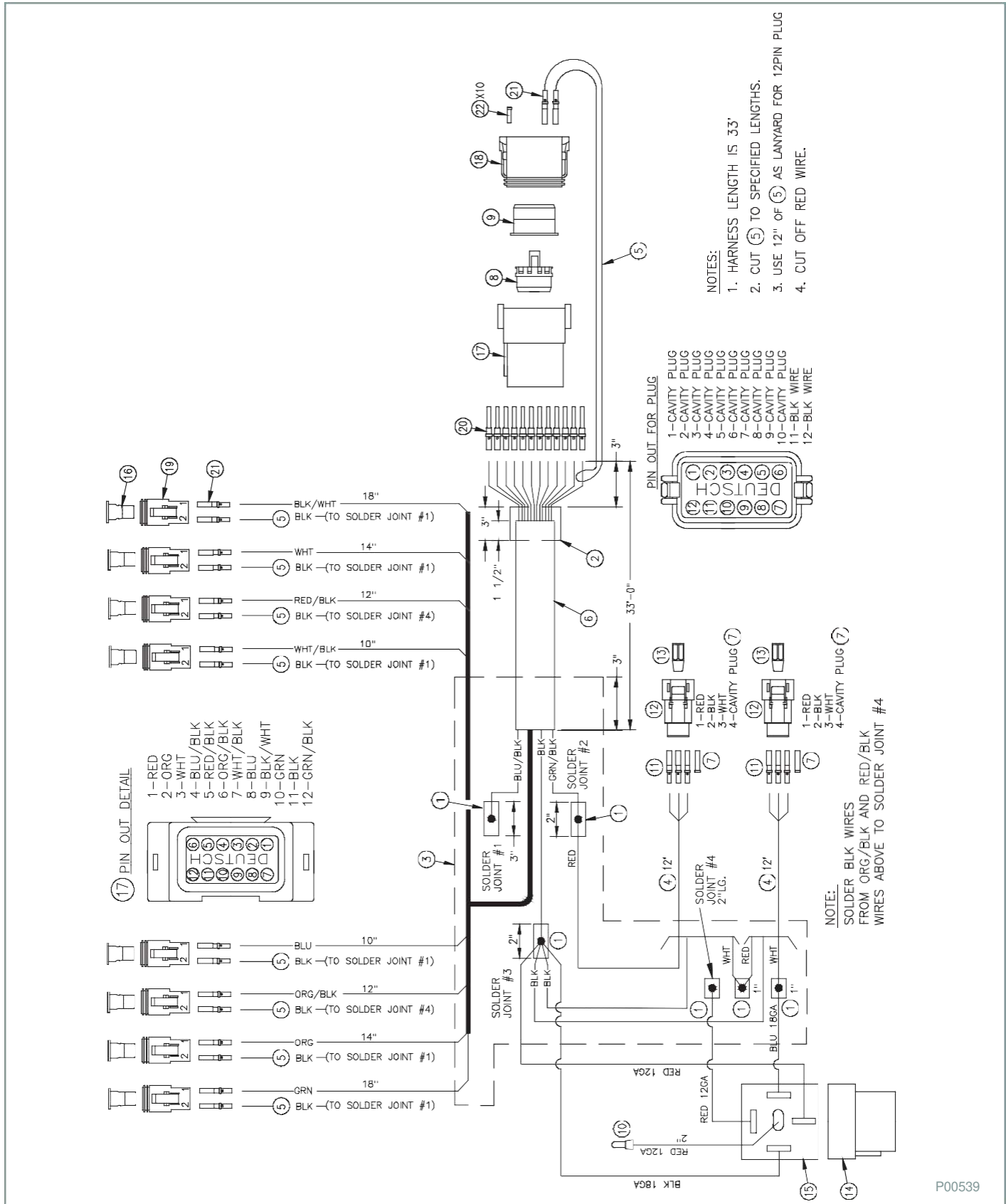


P00501

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|---|------|
| 1 | 231-009 | SHRINK TUBING 0.500 BLACK 1 IN. (25 MM) | 1 |
| 2 | 252-058 | WIRE BLACK 18 GA 12 IN. (305 MM) | 1 |
| 3 | 252-064 | CABLE 12 CON 18 GA PVC GREY 11 IN. (280 MM) | 1 |
| 4 | 255-214 | CONN DUET LOCK WEDGE 12 PIN DTR | 1 |
| 5 | 255-215 | CENTER LOCK WEDGE 12 PIN DTR | 1 |
| 6 | 255-755 | CONN DUET DT RCPT 12 PIN KEY A | 1 |
| 7 | 255-756 | CONN DUET DT PLUG 12 PIN KEY A | 1 |
| 8 | 255-977 | CONN DUET PIN 16-18 GA | 2 |
| 9 | 255-978 | CENTER DUETSCH SOCKET 16/18 GA. | 12 |
| 10 | 255-979 | CONN DUET CAVITY PLUG | 10 |
| NS | 319-759 | CONTROL HARNESS (CONTAINS ITEMS 1-10) | 10 |

ILLUSTRATED PARTS LIST (CONT'D)

Fold Control Block Harness (304-042)



P00539

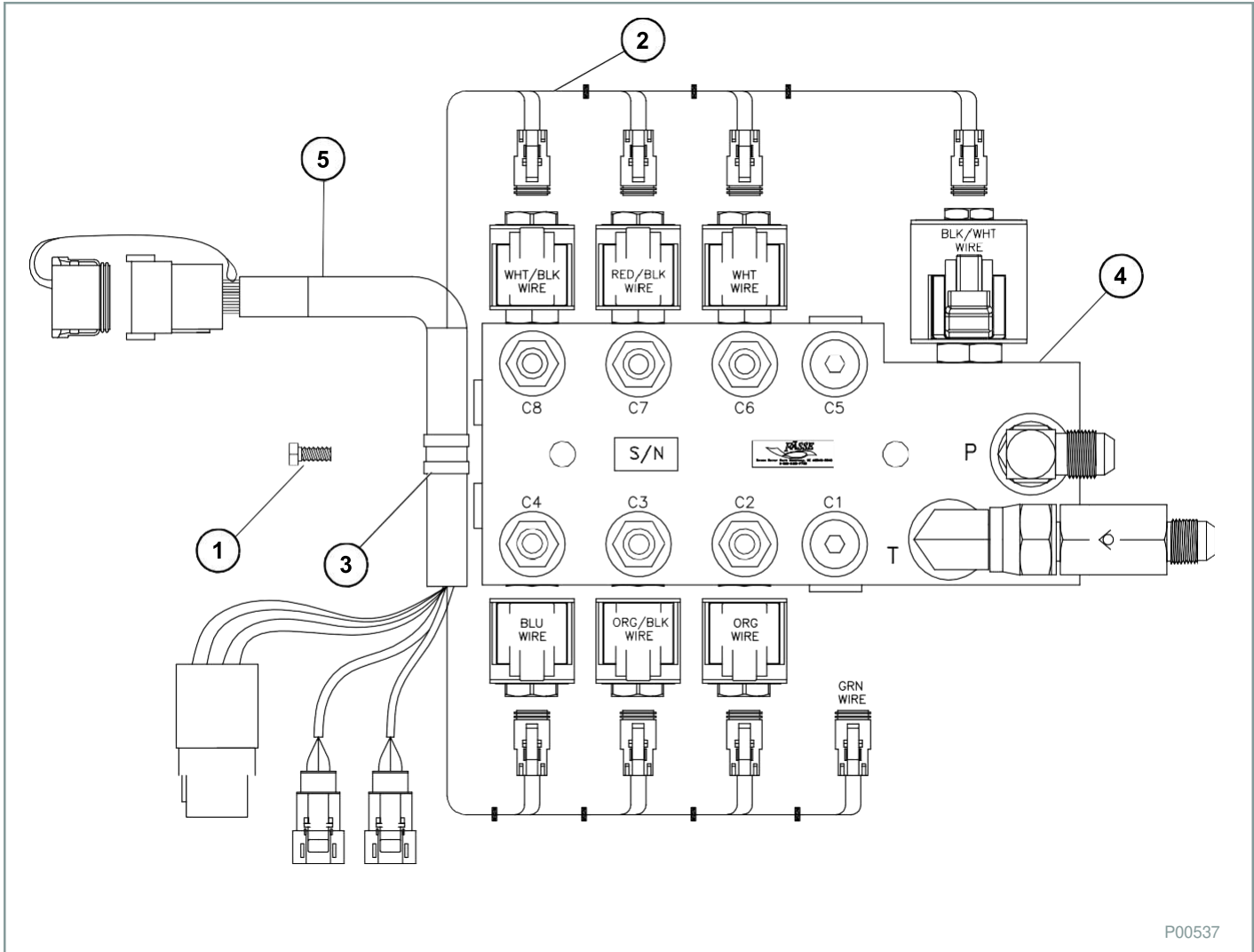
ILLUSTRATED PARTS LIST (CONT'D)

Fold Control Block Harness (304-042) (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|--------------------------------------|---------|
| 1 | 231-006 | SHRINKTUBINE 0.375 IN. BLK DUAL WALL | 11 IN. |
| 2 | 231-009 | SHRINKTUBING 0.5 IN. | 3 IN. |
| 3 | 231-011 | SHRINKTUBINE 0.75 IN. BLK DUAL WALL | 6 IN. |
| 4 | 252-006 | CABLE 3CON 18GA PVC GRY | 24 FT. |
| 5 | 252-058 | WIRE 18GA BLK | 146 IN. |
| 6 | 252-064 | CABLE 12CON 18GA GRY | 35 FT. |
| 7 | 255-191 | CONT DEUT CAVITY PLUG SZ20RED | 2 |
| 8 | 255-214 | CNTR DEUTSCH LOCK WEDGE 12PIN DTP | 1 |
| 9 | 255-215 | CONN DEUT LOCK WEDGE 12PIN DTP | 1 |
| 10 | 255-285 | TRM SPLICE CLOSED END LRG 12-10GA | 1 |
| 11 | 255-319 | CONT DEUT SOCKET DTM 16-18GA | 6 |
| 12 | 255-320 | CONT DEUT SOCKET DTM 4P | 2 |
| 13 | 255-321 | CONT DEUT LOCK WEDGE 4P PLUG ORG | 2 |
| 14 | 255-322 | RLY HELLA CUBE SPDT 12V 20/40 SKIRT | 1 |
| 15 | 255-323 | RLY SOCKET HELLA CUBE 5P SEALED W/LE | 1 |
| 16 | 255-505 | CNTR DEUTSCH LOCK WEDGE 2PIN DTP | 8 |
| 17 | 255-755 | CONT DEUT DT RCPT 12P KEY A | 1 |
| 18 | 255-756 | CONT DEUT DT PLUG 12P KEY A | 1 |
| 19 | 255-801 | CNTR DEUTSCH 16/18GA | 8 |
| 20 | 255-977 | TRM PIN DEUTSCH 16/18GA | 12 |
| 21 | 255-978 | TRM SOCKET DEUTSCH 16/18GA | 18 |
| 22 | 255-979 | CONT DEUT CAVITY PLUG | 10 |
| NS | 304-042 | BLOCK HARNESS (CONTAINS ITEMS 1-22) | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

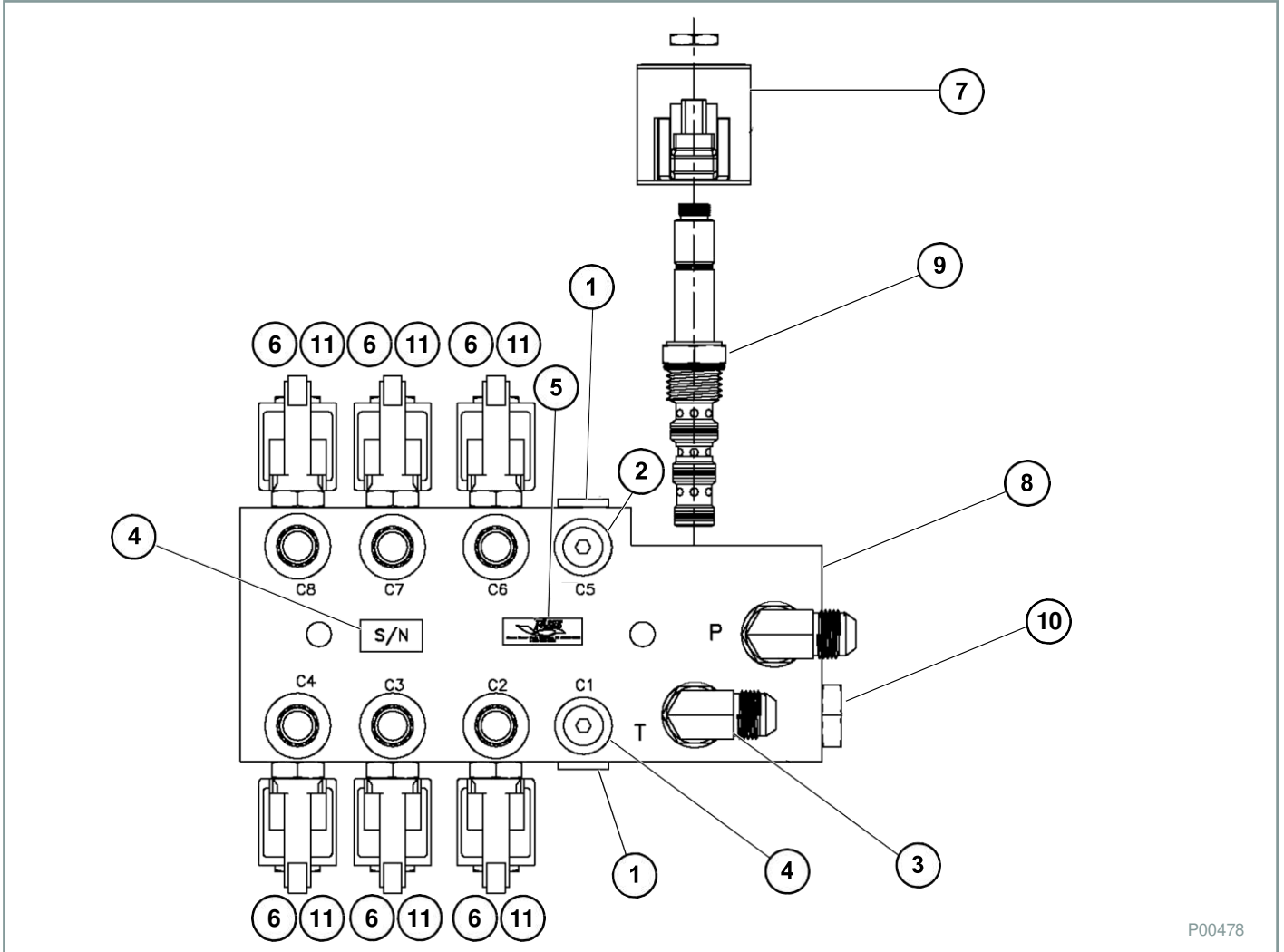
Valve Block And Harness (303-131)



| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|---|------|
| 1 | 212-025 | BOLT 5/16-18 X 0.75 | 1 |
| 2 | 214-002 | CABLE TIE BLACK | 11 |
| 3 | 255-026 | LOOM CLAMP 0.5" ID METAL/RUBBER | 1 |
| 4 | 302-469 | MANIFOLD ASSEMBLY | 1 |
| 5 | 304-042 | HRN ASSY 12CON 18GA DTR KEY A 12P(12)-8DPT2P(2) 33' | 1 |
| NS | 303-131 | VALVE BLOCK AND HARNESS (ITEMS 1-5) | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

Valve Block (302-469)



P00478

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|---|------|
| 1 | 210-038 | FTG 6408-HHP-8/HOLL HEX PLUG MO | 2 |
| 2 | 210-127 | FTG 6408-HHP-6/HOLL HEX PLUG MO | 2 |
| 3 | 210-390 | FTG 6801-8-8/E-MJ-MO ZINC NICKEL PLATED | 2 |
| 4 | 232-050 | DECL S/N (SILVER) | 2 |
| 5 | 232-058 | DECL GOLD/BLK 1.5 X 0.5 | 1 |
| 6 | 253-046 | COIL HY 03012600 INTG DEUT RCPT 12V 1.5A | 6 |
| 7 | 253-421 | COIL H/F 4301892 D-10 INTG DEUT DTR 12V 1.67A DIODE | 1 |
| 8 | 270-092 | MANI S15867-1 4CIR AL BYPASS 0804 | 1 |
| 9 | 273-008 | CART SV10-40-0-N-00 | 1 |
| 10 | 273-012 | CART H/F CP10-20-N CAVITY PLUG 2W | 1 |
| 11 | 273-077 | CART HY WS08W-01-C-N-0 BL DIR POP 2/2 NC | 6 |
| NS | 402-469 | VALVE BLOCK (CONTAINS ITEMS 1-11) | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

Control Box To Control Valve Operation And Pin-Out Location

| SWITCH | SWITCH POSITIONS | SIGNAL WIRES | PIN-OUT LOCATIONS | HYDRAULIC VALVE CIRCUITS | | FUNCTION |
|----------|------------------|---|-------------------|--------------------------|-----------|------------------------|
| | | | | PRESSURE PORT | TANK PORT | |
| 1*-Green | Up | RED/BLACK, ORANGE/BLACK, GREEN** | 5, 6, 10 | C3 | C7 | MAIN WINGS - TRANSPORT |
| | Center | OFF | NA | NA | NA | OFF |
| | Down | RED/BLACK, ORANGE/BLACK, GREEN**, BLACK/WHITE | 5, 6, 10, 9 | C7 | C3 | MAIN WINGS - FIELD |
| 2-Yellow | Up | WHITE, ORANGE, GREEN** | 3, 2, 10 | C2 | C6 | LATCHES - TRANSPORT |
| | Center | OFF | NA | NA | NA | OFF |
| | Down | WHITE, ORANGE, GREEN**, BLACK/WHITE | 3, 2, 10, 9 | C6 | C2 | LATCHES - FIELD |
| 3-Grey | Up | BLUE, WHITE/BLACK, GREEN** | 8, 7, 10 | C4 | C8 | FLIP WINGS - TRANSPORT |
| | Center | OFF | NA | NA | NA | OFF |
| | Down | BLUE, WHITE/BLACK, GREEN**, BLACK/WHITE | 8, 7, 10, 9 | C8 | C4 | FLIP WINGS - FIELD |

* The SV38-38 line body valves only work if both limit switches are detecting metal.

** Green wire fires dump valve for open center hydraulic setup. Valve is setup closed center from Fasse (valve manufacturer).

Ground Wires

| | |
|------------|----|
| Black | 11 |
| Blue/Black | 4 |
| Red | 1 |

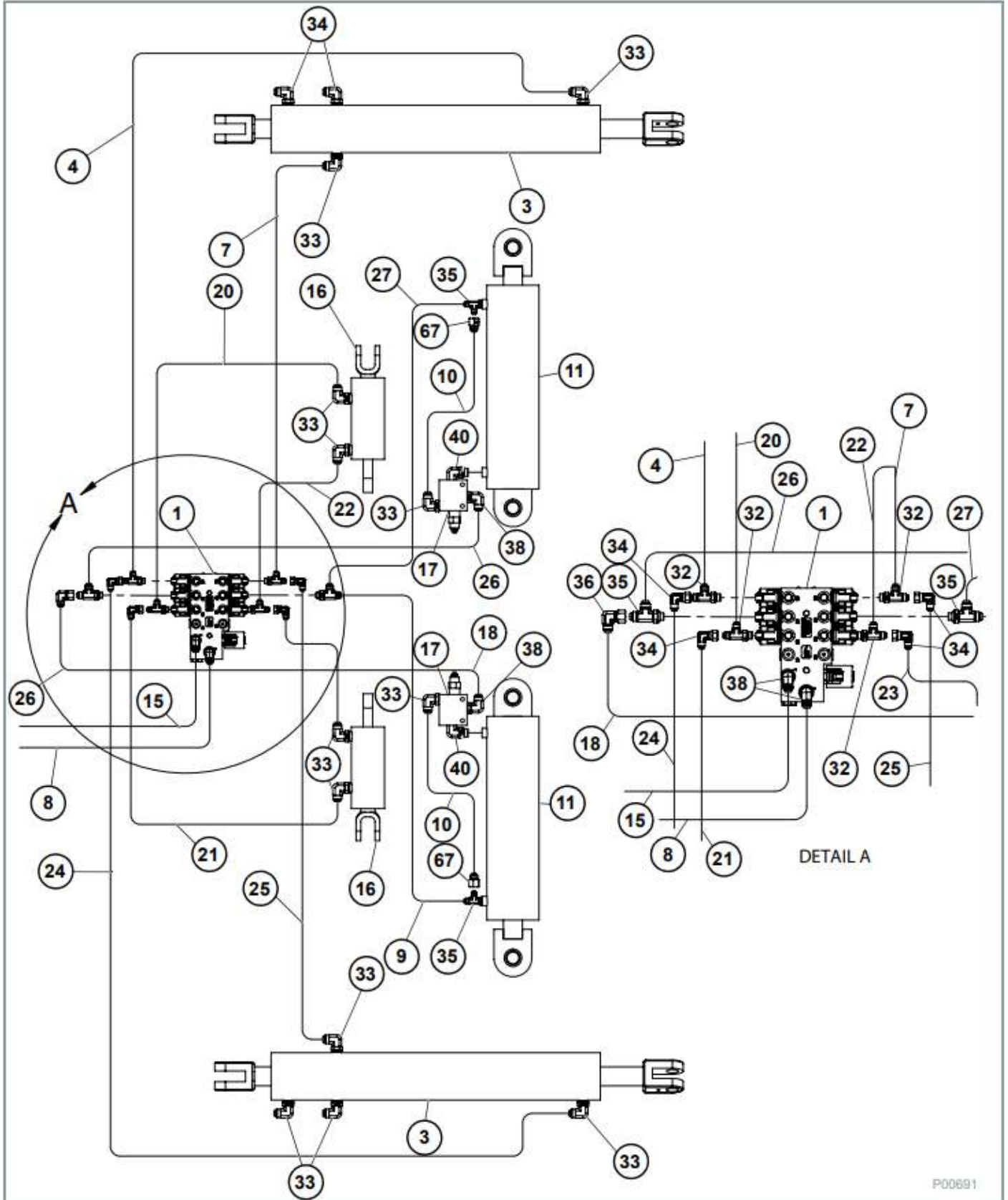
Constant Power

| | |
|-------------|----|
| Green/Black | 12 |
|-------------|----|



ILLUSTRATED PARTS LIST (CONT'D)

Fold Hydraulic System



P00691

ILLUSTRATED PARTS LIST (CONT'D)

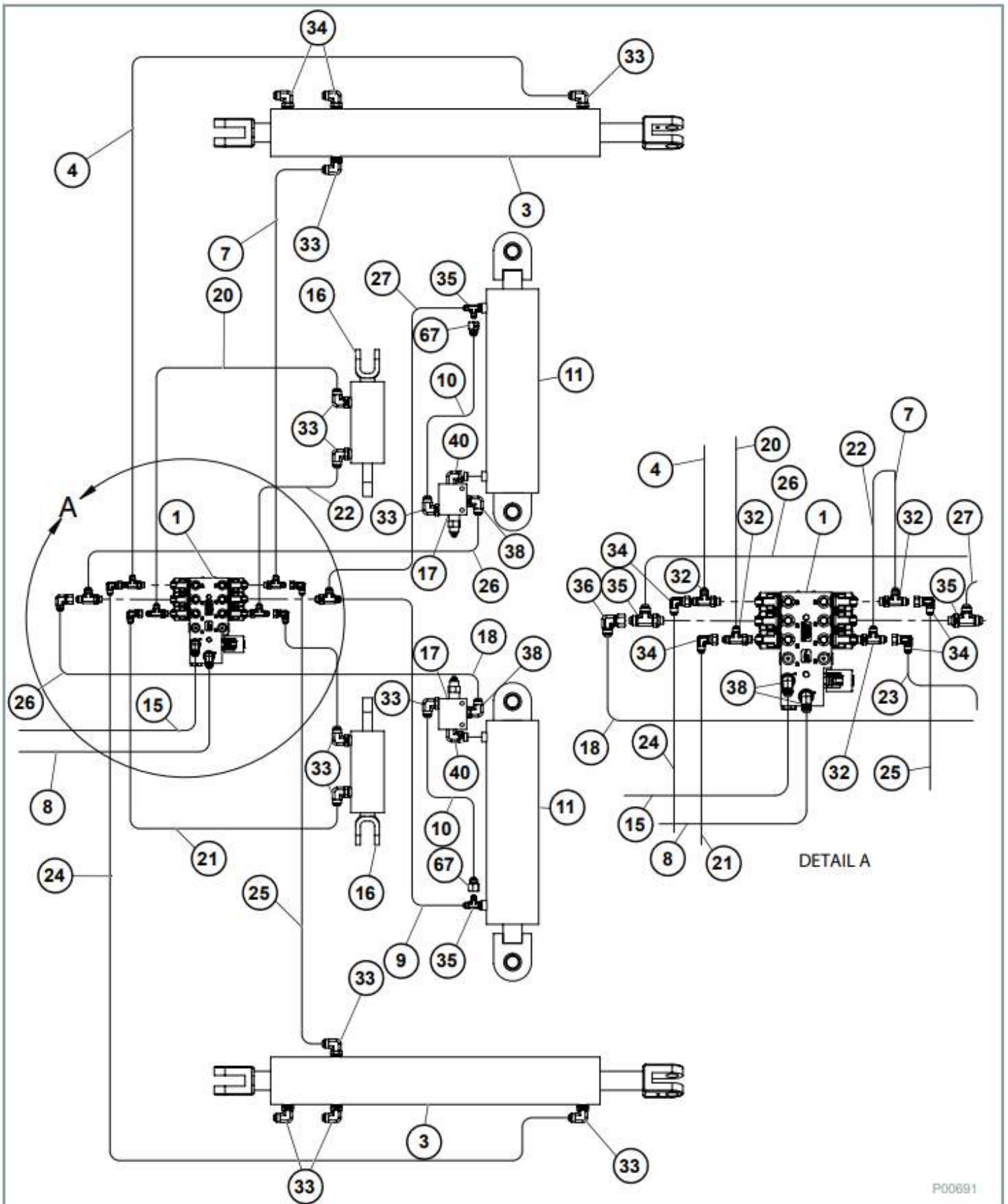
Fold Hydraulic System (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|---------------|--|------|
| 1* | 630039 | FOLD SYSTEM BLOCK | 1 |
| 2 | 900092-20-ZN | HYDRAULIC HOSE 3/8 X 348 IN (8839 MM) | 1 |
| 3 | 620027 | FLIP WING KICK/FOLD CYLINDER | 2 |
| 4* | 600050-6-ZN | HYDRAULIC HOSE 3/8 X 354 IN (8992 MM) | 1 |
| 5 | 900092-21-ZN | HYDRAULIC HOSE 3/8 X 424 IN (10770 MM) | 1 |
| 6 | 900092-19-ZN | HYDRAULIC HOSE 3/8 X 128 IN (3251 MM) | 1 |
| 7* | 600050-7A-ZN | HYDRAULIC HOSE 3/8 X 339 IN (8611 MM) | 1 |
| 8 | 600050-23-ZN | HYDRAULIC HOSE 1/2 X 43 IN (1092 MM) | 1 |
| 9 | 600050-2A-ZN | HYDRAULIC HOSE 1/2 X 98 IN (2489 MM) | 1 |
| 10 | 600050-9A-ZN | HYDRAULIC HOSE 3/8 X 12.5 IN (318 MM) | 1 |
| 11* | 620046 | MAIN WING FOLD CYLINDER | 2 |
| 12 | SV38-38 | VALVE | 2 |
| 13 | 900092-18-ZN | HYDRAULIC HOSE 3/8 X 290 IN (7366 MM) | 1 |
| 14 | 900092-17-ZN | HYDRAULIC HOSE 3/8 X 36 IN (914 MM) | 1 |
| 15 | 600050-23-ZN | HYDRAULIC HOSE 1/2 X 43 IN (1092 MM) | 1 |
| 16* | 620026 | WING LATCH CYLINDER | 2 |
| 17* | 500067 | COUNTERBALANCE VALVE | 2 |
| 18* | 600050-1A-ZN | HYDRAULIC HOSE 1/2 X 88 IN (2235 MM) | 1 |
| 19 | 900092-16-ZN | HYDRAULIC HOSE 3/8 X 31 IN (787 MM) | 1 |
| 20* | 600050-11A-ZN | HYDRAULIC HOSE 3/8 X 91 IN (2311 MM) | 1 |
| 21* | 600050-24A-ZN | HYDRAULIC HOSE 3/8 X 137 IN (3480 MM) | 1 |
| 22* | 600050-12A-ZN | HYDRAULIC HOSE 3/8 X 100 IN (2540 MM) | 1 |
| 23 | 600050-4A-ZN | HYDRAULIC HOSE 3/8 X 133 IN (3378 MM) | 1 |
| 24 | 600050-13A-ZN | HYDRAULIC HOSE 3/8 X 309 IN (7849 MM) | 1 |
| 25* | 600050-14-ZN | HYDRAULIC HOSE 3/8 X 305 IN (7747 MM) | 1 |
| 26* | 600050-17A-ZN | HYDRAULIC HOSE 1/2 X 52 IN (1321 MM) | 1 |
| 27* | 600050-18A-ZN | HYDRAULIC HOSE 1/2 X 64 IN (1626 MM) | 1 |
| 28 | 900092-15-ZN | HYDRAULIC HOSE 3/8 X 164 IN (4166 MM) | 1 |
| 29 | 900092-14-ZN | HYDRAULIC HOSE 3/8 X 85 IN (2159 MM) | 1 |
| 30 | 610131 | FITTING 90O #10 MJIC X #10 FJIX | 1 |
| 31 | 900092-7-ZN | HYDRAULIC HOSE 1/2 X 235 IN (5969 MM) | 1 |
| 32 | 610074 | T-FITTING #6 MORB X #6 MJIC X #6 MJIC | 6 |
| 33 | 610030 | FITTING 90O #8 MORB X #6 MJIC | 16 |
| 34 | 610023 | FITTING 90O #6 FJIX X #6 MJIC | 8 |
| 35* | 610030 | T-FITTING #8 MORB X #8 MJIC X #8 MJIC | 4 |
| 36* | 610024 | FITTING 90O #8 FJIX X #8 MJIC | 1 |
| 37 | 900092-8-ZN | HYDRAULIC HOSE 1/2 X 525 IN (13335 MM) | 1 |
| 38 | 610097 | FITTING 90O #8 MORB X #8 MJIC | 16 |
| 39 | 610027 | T-FITTING #6 FJIX X #6 MJIC X #6 MJIC | 4 |
| 40* | 6807-08-08 | FITTING 90° #8 MORB X #8 MORB | 2 |

* - Not shown. See Fold Hydraulic System on Pages 156 - 163.

ILLUSTRATED PARTS LIST (CONT'D)

Fold Hydraulic System (Cont'd)



P00691

ILLUSTRATED PARTS LIST (CONT'D)

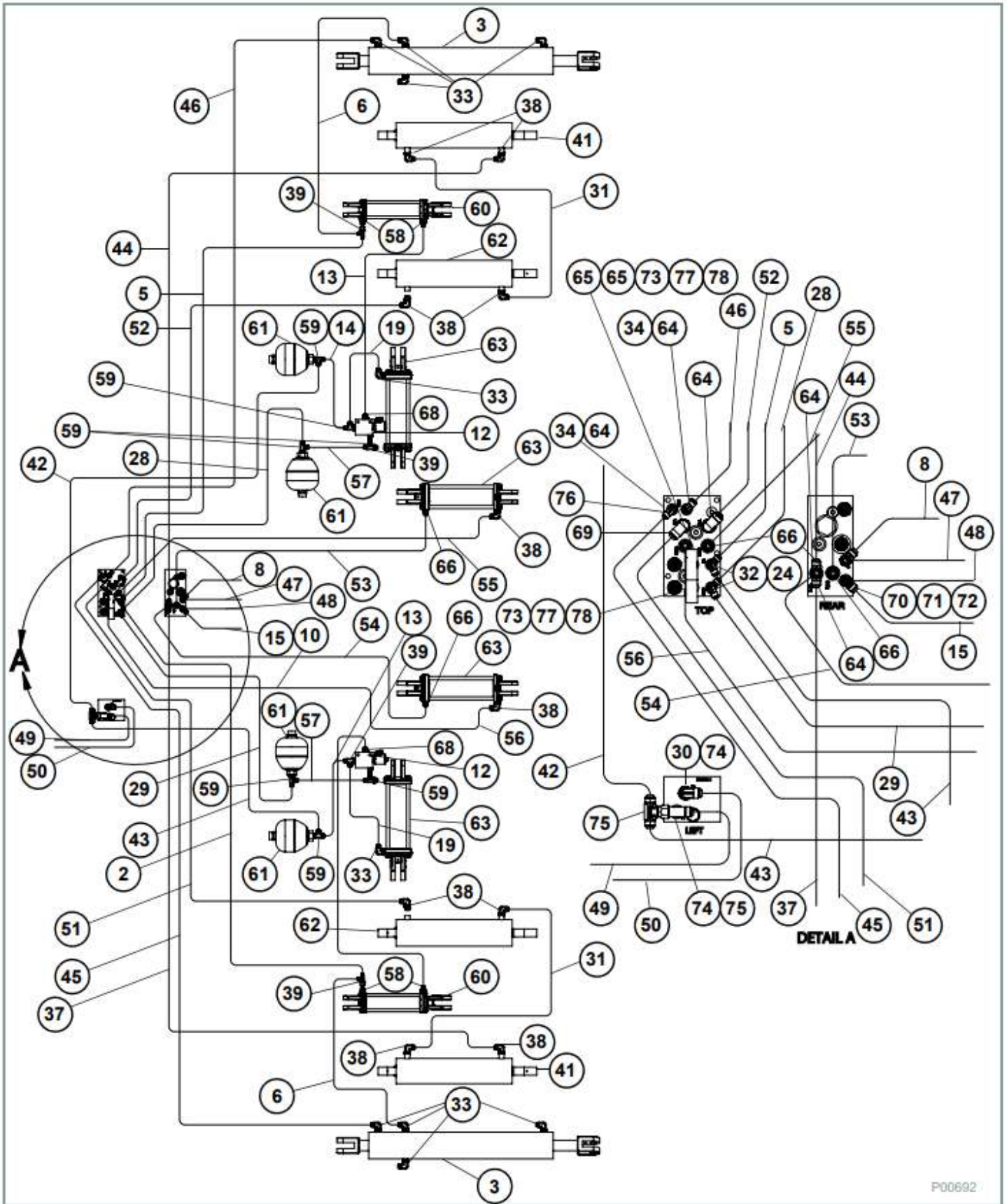
Fold Hydraulic System (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|---------------|--|------|
| 41 | 620083 | OUTER LIFT ASSIST CYLINDER | 2 |
| 42 | 900092-13-ZN | HYDRAULIC HOSE 1/2 X 156 IN (3962 MM) | 1 |
| 43 | 900092-12-ZN | HYDRAULIC HOSE 1/2 X 110 IN (2794 MM) | 1 |
| 44 | 900092-9-ZN | HYDRAULIC HOSE 1/2 X 570 IN (14478 MM) | 1 |
| 45 | 600050-16-ZN | HYDRAULIC HOSE 3/8 X 282 IN (7163 MM) | 1 |
| 46 | 600050-8-ZN | HYDRAULIC HOSE 3/8 X 348 IN (8839 MM) | 1 |
| 47 | 600050-19-ZN | HYDRAULIC HOSE 1/2 X 300 IN (7620 MM) | 1 |
| 48 | 600050-19-ZN | HYDRAULIC HOSE 1/2 X 300 IN (7620 MM) | 1 |
| 49 | 600050-20-ZN | HYDRAULIC HOSE 5/8 X 300 IN (7620 MM) | 1 |
| 50 | 600050-20-ZN | HYDRAULIC HOSE 5/8 X 300 IN (7620 MM) | 1 |
| 51 | 600050-21-ZN | HYDRAULIC HOSE 5/8 X 370 IN (9398 MM) | 1 |
| 52 | 600050-22-ZN | HYDRAULIC HOSE 5/8 X 298 IN (7569 MM) | 1 |
| 53 | 600050-27A-ZN | HYDRAULIC HOSE 1/2 X 68 IN (1727 MM) | 1 |
| 54 | 600050-28A-ZN | HYDRAULIC HOSE 1/2 X 134 IN (3404 MM) | 1 |
| 55 | 600050-25A-ZN | HYDRAULIC HOSE 1/2 X 47 IN (1194 MM) | 1 |
| 56 | 600050-26A-ZN | HYDRAULIC HOSE 1/2 X 152 IN (3861 MM) | 1 |
| 57 | 600050-29-ZN | HYDRAULIC HOSE 3/8 X 18 IN (457 MM) | 1 |
| 58 | 6400-08-06 | FITTING STRAIGHT #8 MORB X #6 MJIC | 4 |
| 59 | 610066 | T-FITTING #8 MORB X #6 MJIC X #6 MJIC | 6 |
| 60 | 620009 | OUTER DOWN PRESSURE CYLINDER | 4 |
| 61 | 630020 | ACCUMULATOR | 4 |
| 62 | 620084 | MAIN LIFT ASSIST CYLINDER | 2 |
| 63 | 620073 | MAIN LIFT AND DOWN PRESSURE CYLINDER | 4 |
| 64 | 610053 | T-FITTING #8 FJIX X #8 MJIC X #8 MJIC | 2 |
| 65 | 610129 | FITTING STRAIGHT #6 MORB X #6 FORB | 2 |
| 66 | 610013 | FITTING STRAIGHT #8 MORB X #8 MJIC | 4 |
| 67* | 610072 | FITTING #8 TO #6 JIC REDUCER | 2 |
| 68 | 610010 | FITTING STRAIGHT #6 MORB X #6 MJIC | 2 |
| 69 | 610102 | FITTING 90O #10 MORB X #10 MJIC | 2 |
| 70 | 610130 | T-FITTING #6 MORB X #8 MJIC X #8 MJIC | 2 |
| 71 | 610068 | FITTING #8 FJIX X #8 FJIX SWIVEL UNION | 1 |
| 72 | 630043 | FITTING #8 MJIC X #8 MJIC INLINE CHECK VALVE | 1 |
| 73 | 790052 | GAGE | 2 |
| 74 | 610106 | FITTING STRAIGHT #10 MORB X #10 MJIC | 2 |
| 75 | 610120 | T-FITTING #10 MJIC X #10 MJIC X #10 FJIX SWIVEL BRANCH | 2 |
| 76 | 23481 | LIFT AND DOWN PRESSURE BLOCK | 1 |
| 77 | 610008 | FITTING STRAIGHT #6 MORB X #4 MJIC | 2 |
| 78 | 610025 | FITTING STRAIGHT #4 FJIX X 1/4 FNPT | 2 |

* - Not shown. See Fold Hydraulic System on Pages 156 - 163.

ILLUSTRATED PARTS LIST (CONT'D)

Lift And Down Pressure Hydraulic System



P00692

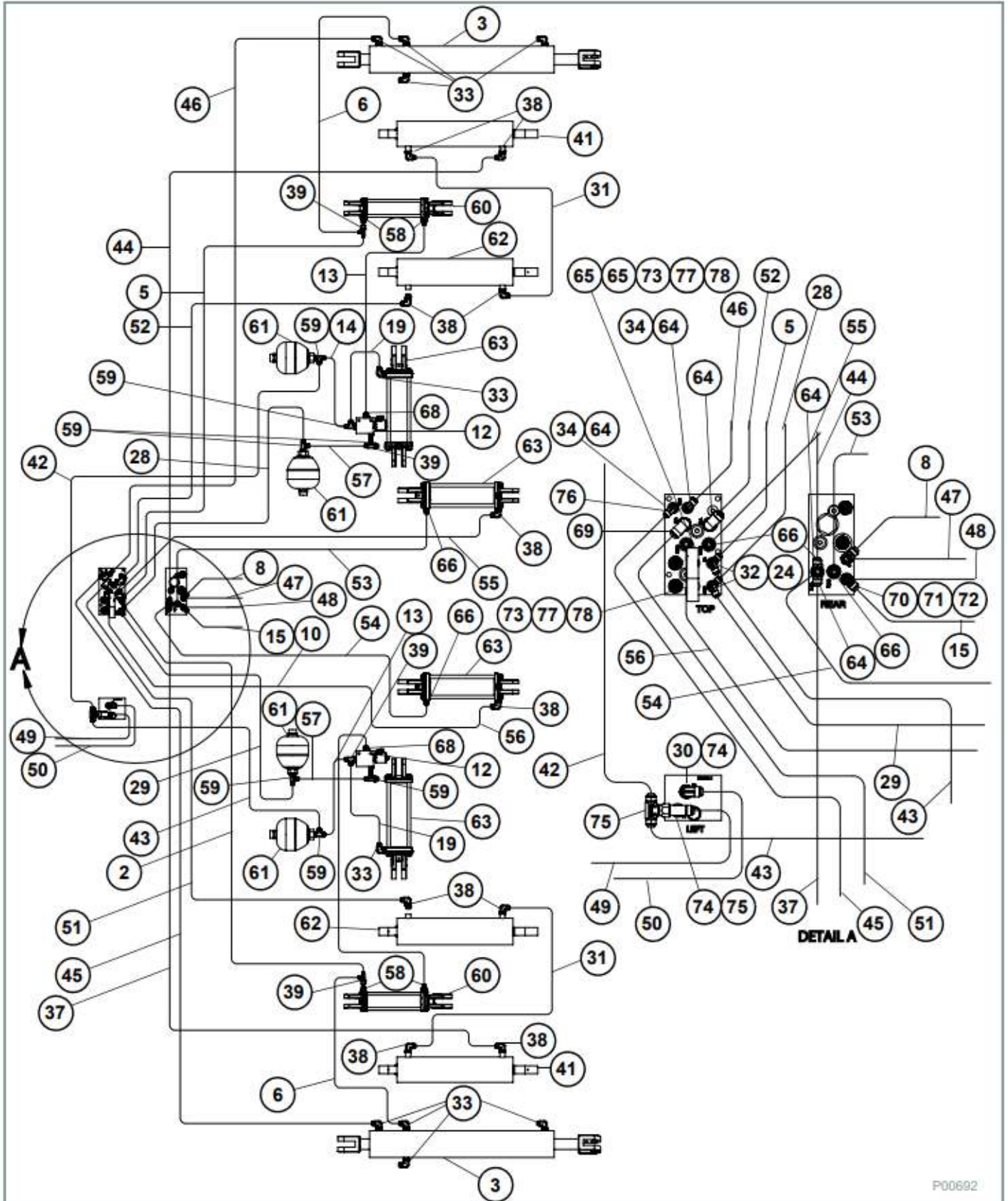
ILLUSTRATED PARTS LIST (CONT'D)
Lift And Down Pressure Hydraulic System (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|---------------|--|------|
| 1 | 630039 | FOLD SYSTEM BLOCK | 1 |
| 2* | 900092-20-ZN | HYDRAULIC HOSE 3/8 X 348 IN (8839 MM) | 1 |
| 3 | 620027 | FLIP WING KICK/FOLD CYLINDER | 2 |
| 4 | 600050-6-ZN | HYDRAULIC HOSE 3/8 X 354 IN (8992 MM) | 1 |
| 5 | 900092-21-ZN | HYDRAULIC HOSE 3/8 X 424 IN (10770 MM) | 1 |
| 6 | 900092-19-ZN | HYDRAULIC HOSE 3/8 X 128 IN (3251 MM) | 1 |
| 7 | 600050-7A-ZN | HYDRAULIC HOSE 3/8 X 339 IN (8611 MM) | 1 |
| 8 | 600050-23-ZN | HYDRAULIC HOSE 1/2 X 43 IN (1092 MM) | 1 |
| 9 | 600050-2A-ZN | HYDRAULIC HOSE 1/2 X 98 IN (2489 MM) | 1 |
| 10 | 600050-9A-ZN | HYDRAULIC HOSE 3/8 X 12.5 IN (318 MM) | 1 |
| 11 | 620046 | MAIN WING FOLD CYLINDER | 2 |
| 12* | SV38-38 | VALVE | 2 |
| 13* | 900092-18-ZN | HYDRAULIC HOSE 3/8 X 290 IN (7366 MM) | 1 |
| 14* | 900092-17-ZN | HYDRAULIC HOSE 3/8 X 36 IN (914 MM) | 1 |
| 15 | 600050-23-ZN | HYDRAULIC HOSE 1/2 X 43 IN (1092 MM) | 1 |
| 16 | 620026 | WING LATCH CYLINDER | 2 |
| 17 | 500067 | COUNTERBALANCE VALVE | 2 |
| 18 | 600050-1A-ZN | HYDRAULIC HOSE 1/2 X 88 IN (2235 MM) | 1 |
| 19* | 900092-16-ZN | HYDRAULIC HOSE 3/8 X 31 IN (787 MM) | 1 |
| 20 | 600050-11A-ZN | HYDRAULIC HOSE 3/8 X 91 IN (2311 MM) | 1 |
| 21 | 600050-24A-ZN | HYDRAULIC HOSE 3/8 X 137 IN (3480 MM) | 1 |
| 22 | 600050-12A-ZN | HYDRAULIC HOSE 3/8 X 100 IN (2540 MM) | 1 |
| 23 | 600050-4A-ZN | HYDRAULIC HOSE 3/8 X 133 IN (3378 MM) | 1 |
| 24 | 600050-13A-ZN | HYDRAULIC HOSE 3/8 X 309 IN (7849 MM) | 1 |
| 25 | 600050-14-ZN | HYDRAULIC HOSE 3/8 X 305 IN (7747 MM) | 1 |
| 26 | 600050-17A-ZN | HYDRAULIC HOSE 1/2 X 52 IN (1321 MM) | 1 |
| 27 | 600050-18A-ZN | HYDRAULIC HOSE 1/2 X 64 IN (1626 MM) | 1 |
| 28* | 900092-15-ZN | HYDRAULIC HOSE 3/8 X 164 IN (4166 MM) | 1 |
| 29* | 900092-14-ZN | HYDRAULIC HOSE 3/8 X 85 IN (2159 MM) | 1 |
| 30* | 610131 | FITTING 90O #10 MJIC X #10 FJIX | 1 |
| 31* | 900092-7-ZN | HYDRAULIC HOSE 1/2 X 235 IN (5969 MM) | 1 |
| 32 | 610074 | T-FITTING #6 MORB X #6 MJIC X #6 MJIC | 6 |
| 33 | 610030 | FITTING 90O #8 MORB X #6 MJIC | 16 |
| 34 | 610023 | FITTING 90O #6 FJIX X #6 MJIC | 8 |
| 35 | 610030 | T-FITTING #8 MORB X #8 MJIC X #8 MJIC | 4 |
| 36 | 610024 | FITTING 90O #8 FJIX X #8 MJIC | 1 |
| 37* | 900092-8-ZN | HYDRAULIC HOSE 1/2 X 525 IN (13335 MM) | 1 |
| 38 | 610097 | FITTING 90O #8 MORB X #8 MJIC | 16 |
| 39* | 610027 | T-FITTING #6 FJIX X #6 MJIC X #6 MJIC | 4 |
| 40 | 6807-08-08 | FITTING 90O #8 MORB X #8 MORB | 2 |

* - Not shown. See Fold Hydraulic System on Pages 156 - 159.

ILLUSTRATED PARTS LIST (CONT'D)

Lift And Down Pressure Hydraulic System (Cont'd)



P00692

ILLUSTRATED PARTS LIST (CONT'D)
Lift And Down Pressure Hydraulic System (Cont'd)

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|---------------|--|------|
| 41* | 620083 | OUTER LIFT ASSIST CYLINDER | 2 |
| 42* | 900092-13-ZN | HYDRAULIC HOSE 1/2 X 156 IN (3962 MM) | 1 |
| 43* | 900092-12-ZN | HYDRAULIC HOSE 1/2 X 110 IN (2794 MM) | 1 |
| 44* | 900092-9-ZN | HYDRAULIC HOSE 1/2 X 570 IN (14478 MM) | 1 |
| 45* | 600050-16-ZN | HYDRAULIC HOSE 3/8 X 282 IN (7163 MM) | 1 |
| 46* | 600050-8-ZN | HYDRAULIC HOSE 3/8 X 348 IN (8839 MM) | 1 |
| 47* | 600050-19-ZN | HYDRAULIC HOSE 1/2 X 300 IN (7620 MM) | 1 |
| 48* | 600050-19-ZN | HYDRAULIC HOSE 1/2 X 300 IN (7620 MM) | 1 |
| 49* | 600050-20-ZN | HYDRAULIC HOSE 5/8 X 300 IN (7620 MM) | 1 |
| 50* | 600050-20-ZN | HYDRAULIC HOSE 5/8 X 300 IN (7620 MM) | 1 |
| 51* | 600050-21-ZN | HYDRAULIC HOSE 5/8 X 370 IN (9398 MM) | 1 |
| 52* | 600050-22-ZN | HYDRAULIC HOSE 5/8 X 298 IN (7569 MM) | 1 |
| 53* | 600050-27A-ZN | HYDRAULIC HOSE 1/2 X 68 IN (1727 MM) | 1 |
| 54* | 600050-28A-ZN | HYDRAULIC HOSE 1/2 X 134 IN (3404 MM) | 1 |
| 55* | 600050-25A-ZN | HYDRAULIC HOSE 1/2 X 47 IN (1194 MM) | 1 |
| 56* | 600050-26A-ZN | HYDRAULIC HOSE 1/2 X 152 IN (3861 MM) | 1 |
| 57* | 600050-29-ZN | HYDRAULIC HOSE 3/8 X 18 IN (457 MM) | 1 |
| 58* | 6400-08-06 | FITTING STRAIGHT #8 MORB X #6 MJIC | 4 |
| 59* | 610066 | T-FITTING #8 MORB X #6 MJIC X #6 MJIC | 6 |
| 60* | 620009 | OUTER DOWN PRESSURE CYLINDER | 4 |
| 61* | 630020 | ACCUMULATOR | 4 |
| 62* | 620084 | MAIN LIFT ASSIST CYLINDER | 2 |
| 63* | 620073 | MAIN LIFT AND DOWN PRESSURE CYLINDER | 4 |
| 64* | 610053 | T-FITTING #8 FJIX X #8 MJIC X #8 MJIC | 2 |
| 65* | 610129 | FITTING STRAIGHT #6 MORB X #6 FORB | 2 |
| 66* | 610013 | FITTING STRAIGHT #8 MORB X #8 MJIC | 4 |
| 67 | 610072 | FITTING #8 TO #6 JIC REDUCER | 2 |
| 68* | 610010 | FITTING STRAIGHT #6 MORB X #6 MJIC | 2 |
| 69* | 610102 | FITTING 90O #10 MORB X #10 MJIC | 2 |
| 70* | 610130 | T-FITTING #6 MORB X #8 MJIC X #8 MJIC | 2 |
| 71* | 610068 | FITTING #8 FJIX X #8 FJIX SWIVEL UNION | 1 |
| 72* | 630043 | FITTING #8 MJIC X #8 MJIC INLINE CHECK VALVE | 1 |
| 73* | 790052 | GAGE | 2 |
| 74* | 610106 | FITTING STRAIGHT #10 MORB X #10 MJIC | 2 |
| 75* | 610120 | T-FITTING #10 MJIC X #10 MJIC X #10 FJIX SWIVEL BRANCH | 2 |
| 76* | 23481 | LIFT AND DOWN PRESSURE BLOCK | 1 |
| 77* | 610008 | FITTING STRAIGHT #6 MORB X #4 MJIC | 2 |
| 78* | 610025 | FITTING STRAIGHT #4 FJIX X 1/4 FNPT | 2 |

* - Not shown. See Fold Hydraulic System on Pages 156 - 159.

ILLUSTRATED PARTS LIST (CONT'D)

Hydraulic Hose Description

| HYD. HOSE LOCATION | PART NO. | SIZE | FITTING** | | LENGTH | HOSE FUNCTION | POSITION |
|--------------------|---------------|---------|-----------|-----|--------------------|-----------------------------|----------|
| FS#20 | 600050-11A-ZN | 3/8 IN. | ST. | ST. | 91 IN. (2311 MM) | RIGHT LATCH (ROD) | FB-C2 |
| FS#21 | 600050-24A-ZN | 3/8 IN. | ST. | ST. | 137 IN. (3480 MM) | LEFT LATCH (ROD) | FB-C2 |
| FS#22 | 600050-12A-ZN | 3/8 IN. | ST. | ST. | 100 IN. (2540 MM) | RIGHT LATCH (BASE) | FB-C6 |
| FS#23 | 600050-4A-ZN | 3/8 IN. | ST. | ST. | 133 IN. (3378 MM) | LEFT LATCH (BASE) | FB-C6 |
| FS#24 | 600092-2-ZN | 3/8 IN. | ST. | ST. | 552 IN. (14021 MM) | LEFT FLIP FOLD (ROD) | FB-C4 |
| FS#4 | 600092-1-ZN | 3/8 IN. | ST. | ST. | 507 IN. (12878 MM) | RIGHT FLIP FOLD (ROD) | FB-C4 |
| FS#25 | 600092-4-ZN | 3/8 IN. | ST. | ST. | 837 IN. (21260 MM) | LEFT FLIP FOLD (BASE) | FB-C8 |
| FS#7 | 600092-3-ZN | 3/8 IN. | ST. | ST. | 503 IN. (12776 MM) | RIGHT FLIP FOLD (BASE) | FB-C8 |
| LDP#45 | 600092-6-ZN | 3/8 IN. | ST. | ST. | 546 IN. (13868 MM) | LEFT KICK (ROD) | MVB-LKR |
| LDP#46 | 600092-5-ZN | 3/8 IN. | ST. | ST. | 480 IN. (12192 MM) | RIGHT KICK (ROD) | MVB-RKR |
| FS#26 | 600050-17A-ZN | 1/2 IN. | ST. | 90° | 52 IN. (1321 MM) | RIGHT MAIN FOLD (BASE) CB-2 | FB-C7 |
| FS#18 | 600050-1A-ZN | 1/2 IN. | ST. | ST. | 88 IN. (2235 MM) | LEFT MAIN FOLD (BASE) CB-2 | FB-C7 |
| FS#27 | 600050-18A-ZN | 1/2 IN. | ST. | 90° | 64 IN. (1626 MM) | RIGHT MAIN FOLD (ROD) | FB-C3 |
| FS#9 | 600050-2A-ZN | 1/2 IN. | ST. | 90° | 98 IN. (2489 MM) | LEFT MAIN FOLD (ROD) | FB-C3 |
| LDP#47 | 600050-19-ZN | 1/2 IN. | PO | ST. | 300 IN. (7620 MM) | 1/2 IN. TRACTOR HOSE | MVB-P |
| LDP#48 | 600050-19-ZN | 1/2 IN. | PO | ST. | 300 IN. (7620 MM) | 1/2 IN. TRACTOR HOSE | MVB-T |
| LDP#49 | 600050-20-ZN | 5/8 IN. | PO | ST. | 300 IN. (7620 MM) | 5/8 IN. TRACTOR HOSE | MVB-P1 |
| LDP#50 | 600050-20-ZN | 5/8 IN. | PO | ST. | 300 IN. (7620 MM) | 5/8 IN. TRACTOR HOSE | MVB-P2 |
| FS#15,LDP#15 | 600050-23-ZN | 1/2 IN. | ST. | 90° | 43 IN. (1092 MM) | MVB-T | FB-T |
| FS#8,LDP#8 | 600050-23-ZN | 1/2 IN. | ST. | 90° | 43 IN. (1092 MM) | MVB-P | FB-P |
| LDP#55 | 600050-25A-ZN | 1/2 IN. | ST. | 90° | 47 IN. (1194 MM) | RIGHT MAIN LIFT (BASE) | MVB-RMLB |
| LDP#56 | 600050-26A-ZN | 1/2 IN. | ST. | 90° | 152 IN. (3861 MM) | LEFT MAIN LIFT (BASE) | MVB-LMLB |

- * - **Hydraulic Hose Location**
 FS - Fold Hydraulic System Page 156 - 159
 LPD - Lift And Down Pressure Hydraulic System Page 160 - 163
- * - **Fitting Type**
 ST. - Straight Fitting
 90° - 90 Degree Fitting
 PO - Pioneer OR Fitting
- * - **Position**
 FB - Fold Block
 MVB - Main Valve Block
 RKR - Outer Wing Kick Rod
 RMLB - Right Main Lift Base
 LMLB - Left Main Lift Base
 RMLR - Right Main Lift Rod
 LMLR - Left Main Lift Rod
 ACC - Accumulator
 RLA - Right Lift Assist
 LLA - Left Lift Assist

MDP - Main Down Pressure
 KB - Outer Wing Kick Base

ILLUSTRATED PARTS LIST (CONT'D)

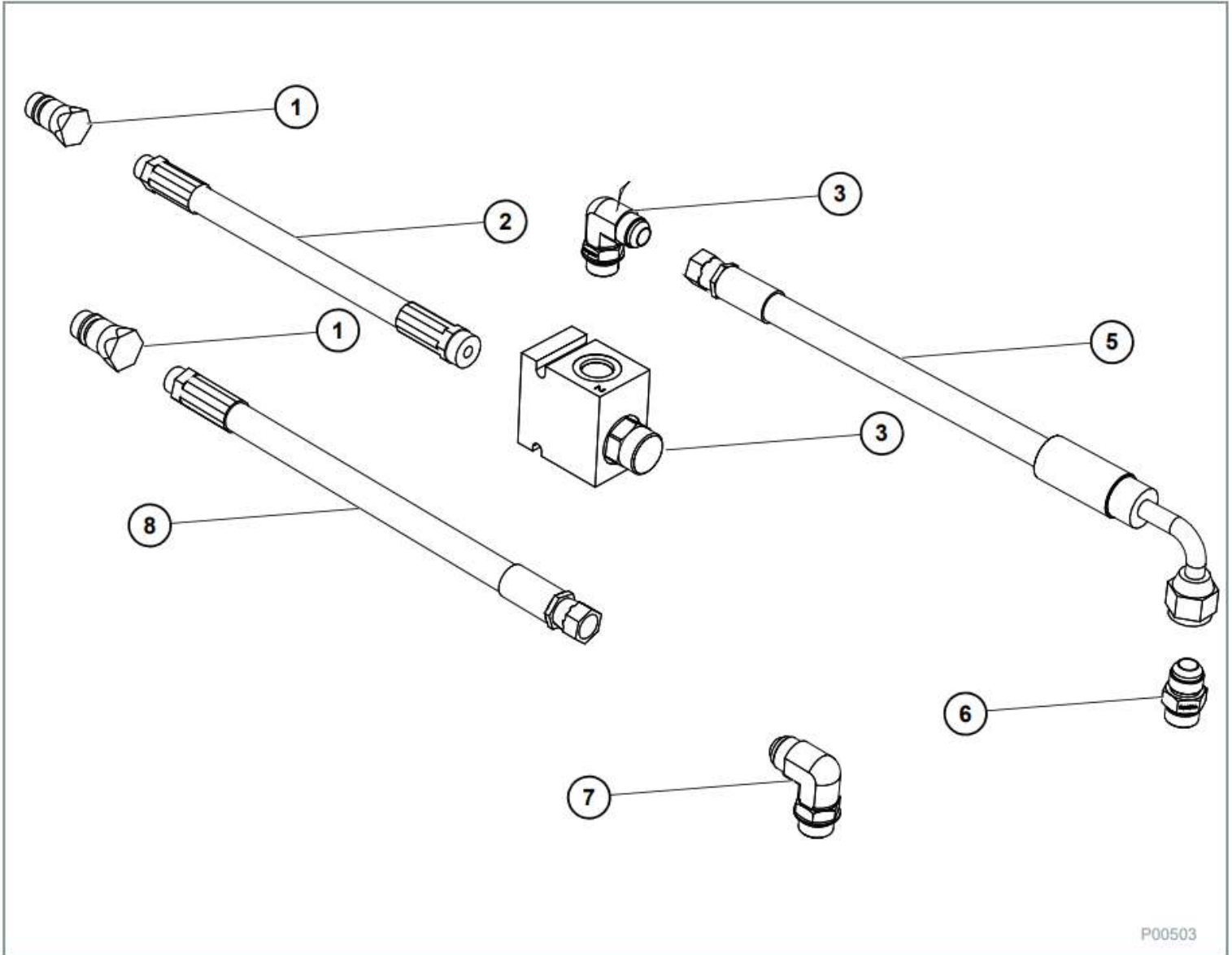
Hydraulic Hose Description (Cont'd)

| HYD. HOSE LOCATION* | PART NO. | SIZE | FITTING** | | LENGTH | HOSE FUNCTION | POSITION |
|---------------------|---------------|---------|-----------|-------|--------------------|---------------------------------------|--------------------------|
| LDP#53 | 600050-27A-ZN | 1/2 IN. | 90° | 90° | 68 IN. (1727 MM) | RIGHT MAIN LIFT (ROD) | MVB-RMLR |
| LDP#54 | 600050-28A-ZN | 1/2 IN. | ST. | 90° | 134 IN. (3404 MM) | LEFT MAIN LIFT (ROD) | MVB-LMLR |
| LDP#57 | 600050-29-ZN | 3/8 IN. | ST. | ST. | 18 IN. (457 MM) | MAIN DOWN PRESSURE (BASE) | ACC |
| FS#10 | 600050-9A-ZN | 3/8 IN. | ST. | ST. | 12.5 IN. (318 MM) | MAIN FOLD CB-3 | MAIN FOLD ROD |
| | 600054-1-ZN | 1/2 IN. | PO | M ST. | 163 IN. (4140 MM) | TRACTOR PRESSURE | OVERSPEED VALVE - 1 |
| | 600054-2A-ZN | 1/2 IN. | ST. | 90° | 85 IN. (2159 MM) | OVERSPEED VALVE-2 | PUMP INLET |
| | 600054-3-ZN | 5/8 IN. | PO | ST. | 250 IN. (6350 MM) | PUMP OUTLET | TRACTOR TANK |
| LDP#31 | 900092-7-ZN | 1/2 IN. | ST. | 90° | 235 IN. (5969 MM) | MAIN LIFT ASSIST (ROD) | OUTER LIFT ASSIST (BASE) |
| LDP#37 | 900092-8-ZN | 1/2 IN. | ST. | 90° | 525 IN. (13335 MM) | LEFT OUTER LIFT ASSIST (ROD) | MVB-LMLR |
| LDP#44 | 900092-9-ZN | 1/2 IN. | ST. | 90° | 570 IN. (14478 MM) | RIGHT OUTER LIFT ASSIST (ROD) | MVB-LMLR |
| LDP#51 | 900092-10-ZN | 1/2 IN. | ST. | 90° | 360 IN. (9144 MM) | LEFT MAIN LIFT ASSIST (BASE) | MVB-LLA |
| LDP#52 | 900092-11-ZN | 1/2 IN. | ST. | 90° | 405 IN. (10287 MM) | RIGHT MAIN LIFT ASSIST (BASE) | MVB-RLA |
| LDP#43 | 900092-12-ZN | 1/2 IN. | ST. | 90° | 110 IN. (2794 MM) | LEFT MAIN DOWN PRESSURE ROD ACC TEE | MVB-P1 LEFT |
| LDP#42 | 900092-13-ZN | 1/2 IN. | ST. | 90° | 156 IN. (3962 MM) | RIGHT MAIN DOWN PRESSURE ROD ACC TEE | MVB-P1 RIGHT |
| LDP#29 | 900092-14-ZN | 3/8 IN. | ST. | 90° | 85 IN. (2159 MM) | LEFT MAIN DOWN PRESSURE BASE ACC TEE | MVB-MDP LEFT |
| LDP#28 | 900092-15-ZN | 3/8 IN. | ST. | 90° | 164 IN. (4166 MM) | RIGHT MAIN DOWN PRESSURE BASE ACC TEE | MVB-MDP RIGHT |
| LDP#19 | 900092-16-ZN | 3/8 IN. | ST. | ST. | 31 IN. (787 MM) | DOWN PRESSURE (ROD) | SV38-#1 |
| LDP#14 | 900092-17-ZN | 3/8 IN. | ST. | 90° | 36 IN. (914 MM) | MAIN DOWN PRESSURE ROD ACC TEE | SV38-#1 |
| LDP#13 | 900092-18-ZN | 3/8 IN. | ST. | 90° | 290 IN. (7366 MM) | OUTER DOWN PRESSURE (ROD) | SV38-#2 |
| LDP#6 | 900092-19-ZN | 3/8 IN. | ST. | 90° | 128 IN. (3251 MM) | OUTER DOWN PRESSURE (BASE) | FLIP WING D.P. BASE |
| LDP#2 | 900092-20-ZN | 3/8 IN. | ST. | 90° | 348 IN. (8839 MM) | LEFT OUTER DOWN PRESSURE (BASE) | MVB-KB LEFT |
| LDP#5 | 900092-21-ZN | 3/8 IN. | ST. | 90° | 424 IN. (10770 MM) | RIGHT OUTER DOWN PRESSURE (BASE) | MVB-KB RIGHT |

- * - Hydraulic Hose Location
 FS - Fold Hydraulic System Page 156 - 159
 LPD - Lift And Down Pressure Hydraulic System Page 160 - 163
- * - Fitting Type
 ST. - Straight Fitting
 90° - 90 Degree Fitting
 PO - Pioneer OR Fitting
- * - Position
 FB - Fold Block
 MVB - Main Valve Block
 RKR - Outer Wing Kick Rod
 RMLB - Right Main Lift Base
 LMLB - Left Main Lift Base
 RMLR - Right Main Lift Rod
 LMLR - Left Main Lift Rod
 ACC - Accumulator
 RLA - Right Lift Assist
 MDP - Main Down Pressure
 KB - Outer Wing Kick Base
 LLA - Left Lift Assist

ILLUSTRATED PARTS LIST (CONT'D)

Pump Hydraulic System

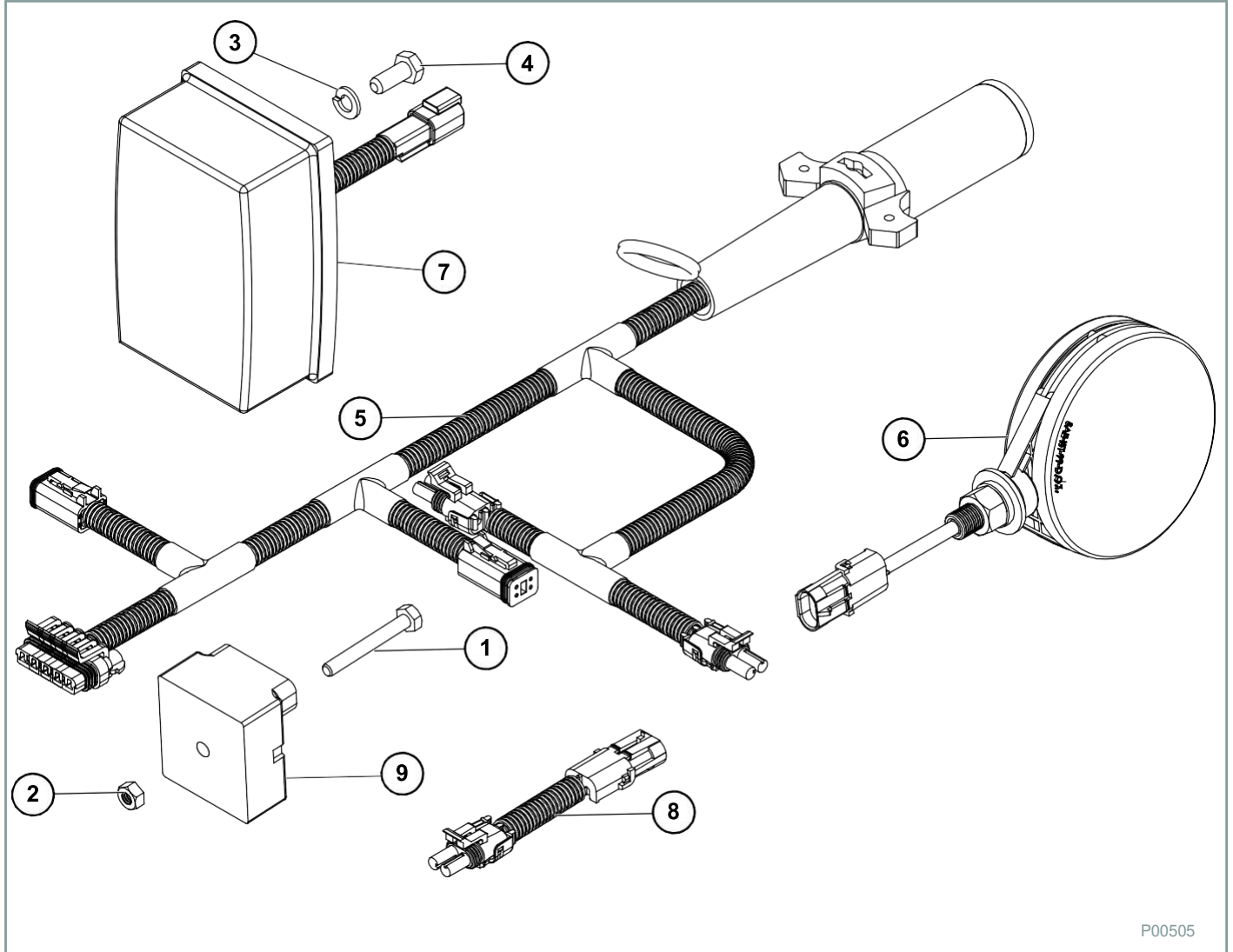


P00503

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|--------------|------------------------------|------|
| 1 | 2-NV12-12SAE | HOSE TIP | 2 |
| 2 | PA600054-1 | HOSE PRESSURE TO VALVE | 1 |
| 3 | 610086 | HYDRAULIC FITTING 6801-8-10 | 1 |
| 4 | 610099 | PC VALVE 13 GPM | 1 |
| 5 | PA600054-2 | HOSE PRESSURE TO PUMP | 1 |
| 6 | 610106 | HYDRAULIC FITTING 6400-10-10 | 1 |
| 7 | 610102 | HYDRAULIC FITTING 6801-10-10 | 1 |
| 8 | PA600054-3 | HOSE PUMP RETURN | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

Lighting

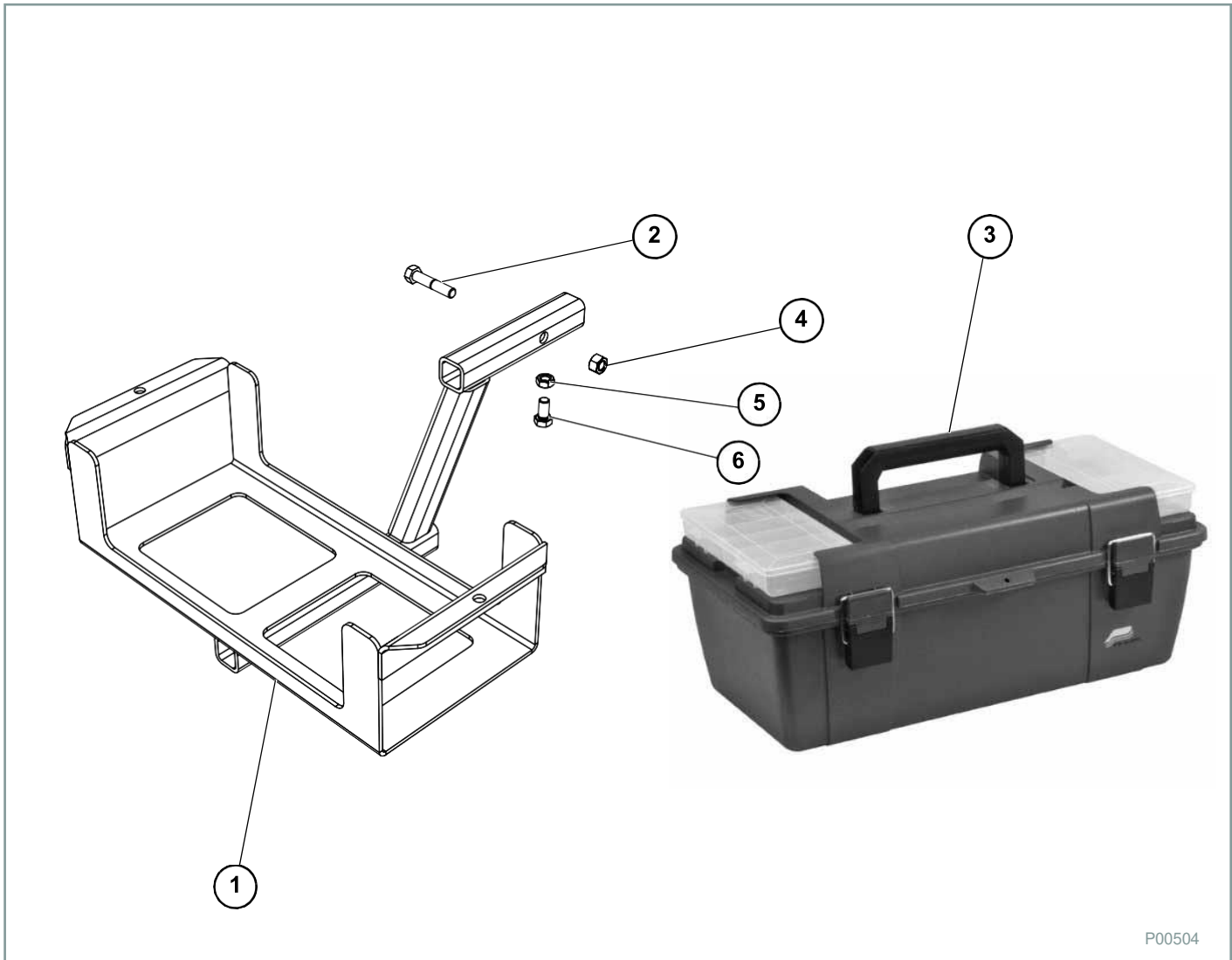


P00505

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|---------------------------------|------|
| 1 | 104 | BOLT, 1/4 X 2" GRADE 5 ZP | 1 |
| 2 | 235 | NUT, CENTERLOCK, 1/4" ZP | 1 |
| 3 | 249 | WASHER, LOCK, 5/16" ZP | 4 |
| 4 | 590229 | BOLT, 8 X 20 MM 8.8 ZP | 4 |
| 5 | 740023 | APPLICATOR LIGHT WIRING HARNESS | 1 |
| 6 | 740024 | AMBER WARNING LIGHT | 2 |
| 7 | 740025 | RED TAIL LIGHT | 2 |
| 8 | 740030 | EXTENSION | 4 |
| 9 | 740031 | LIGHT MODULE | 1 |

ILLUSTRATED PARTS LIST (CONT'D)

Toolbox Carrier



P00504

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|---------------------------------------|------|
| 1 | 18426 | TOOLBOX HOLDER | 1 |
| 2 | 155 | BOLT HEX HEAD 1/2 X 2-1/2: GRADE 5 ZP | 1 |
| 3 | 790041 | GRAB N GO TOOLBOX | 1 |
| 4 | 239 | NUT HEX HEAD 1/2" CENTERLOCK ZP | 1 |
| 5 | 223 | NUT HEX HEAD 1/2" JAM ZP | 1 |
| 6 | 152 | BOLT HEX HEAD 1/2 X 1: GRADE 5 ZP | 1 |

ILLUSTRATED PARTS LIST (CONT'D)
Injector And Knife Kits Contents

| PART NO. | DESCRIPTION | INJECTOR QTY. | KNIFE QTY. |
|-----------------|--------------------------------------|----------------------|-------------------|
| 520003 | 3 NOZZLE, SINGLE HOSE SHANK NYB 3 | NA | 2 |
| 520004 | NOZZLE, DOUBLE HOSE SHANK NYB | NA | 2 |
| 520005 | NOZZLE, SINGLE HS CONN 1/4" F | 2 | NA |
| 520006 | NOZZLE, DOUBLE HS CONN 1/4"F | 2 | 3 |
| 520014 | NOZZLE, SS 1/4" TEE | 1 | NA |
| 520015 | NOZZLE, SS CA | 1 | NA |
| 520034 | TIP, SS - 0015 TEEJET | 2 | NA |
| 530001 | 1/4" X 1/4" MALE CONNECTOR | 1 | 1 |
| 530014 | 1-1/2" EDPM GASKET | 2 | 2 |
| 530019 | 2" EDPM GASKET | 2 | 2 |
| 530024 | 3" EDPM GASKET | 2 | 2 |
| 530188 | HOSE SHANK ASSEMBLY | 1 | NA |
| 530201 | BARB HOSE 1/4" X 3/8" | 4 | NA |
| 530218 | 3/8" X 3/8" HOSE MENDER W/ STOP | 2 | NA |
| 530236 | NIPPLE:1/4" MPTX6" MPT | 1 | NA |
| 530246 | STR. ELB:1/4" MPTX1/4" FPT | 1 | NA |
| 540001 | CLAMP, 2" STD WORM SCREW | 1 | 1 |
| 540002 | CLAMP, 2" FULL WORM SCREW | 1 | 1 |
| 540003 | CLAMP, 3" WORM SCREW | 1 | 1 |
| 540006 | CLAMP 1-1/2" T-BOLT HOSE 1.81" | 2 | 2 |
| 540013 | CLAMP, STAINLESS 3/4" #12 | 10 | 5 |
| 540014 | CLAMP, STAINLESS 1" #16 | NA | 4 |
| 540032 | CLAMP, HOSE 5/16" | 4 | NA |
| 590029 | SEAL, EDPM RUBBER | NA | 3 |
| 590030 | CAP Q.T. NY.LT.YELLOW | NA | 3 |
| 590031 | PLATE ORIFICE, STAINLESS STEEL | NA | 3 |
| 750008 | LOCKING COLLAR, STD 30° | 2 | 2 |
| 750016 | ROCK GUARD WITH PIN | 1 | NA |
| 750018 | 3/8 X 1/2" SET SCREW, SS | 2 | NA |
| 750019 | MOUNTING BRACKET F/WIESE CO-50 KNIFE | NA | 1 |
| 790041 | 20" DEEP GRAB & GO TOOLBOX | 1 | 1 |
| AC40015 | O-RING, VOLUTE SEAL | NA | 1 |
| AC40151 | SEAL, 5/8" SHAFT, VITON-C | NA | 1 |
| AC52700 | REPAIR KIT | 1 | NA |
| AP44103202 | 1/4 X 1/4" UNION CONNECTOR | 3 | 3 |
| AP44103240 | 1/4 X 1/4" FEMALE ADAPTOR | 1 | 1 |
| AXGC30020XXL | XXL GREEN GLOVES | 1 | 1 |
| LAXNVGOGGLES | GOGGLES | 1 | 1 |
| BJ200SHIM | 2" SHIM | NA | 2 |
| BJHM075 | 3/4" X 3/4" HOSE BARB | 2 | 2 |
| BJHM100 | 1" X 1" HOSE BARB | 2 | 2 |
| BJHM150 | 1-1/2" X 1-1/2" HOSE BARB | 1 | 1 |
| CLFBS1004 | 5/8 X 1 SQUARE HEAD SET SCREW | 2 | NA |
| PL707TB | REDURAN | 1 | 1 |
| WA21047 | CABLE TIE, 15" HEAVY DUTY | 20 | 20 |
| VI3K9438 | BARB:3/8" HB FOR 8027 NUT-POLY | NA | 3 |



WARRANTY

WARRANTY 173



WARRANTY

WARRANTY

FAST Equipment

FAST AG Solutions warrants to the buyer that the new machinery is free from defects in material and workmanship.

This warranty is only effective as to any new machinery which has not been altered, changed, repaired or treated since its delivery to the buyer, other than by FAST AG Solutions or its authorized dealers or employees, and does not apply to accessories, attachments, tools or parts, sold or operated with the new machinery, if they have not been manufactured by FAST DISTRIBUTING.

FAST AG Solutions shall only be liable for defects in the materials or workmanship attributable to faulty material or bad workmanship that can be proved by the buyer, and specifically excludes liability for repairs arising as a result of normal wear and tear of the new machinery or in any other manner whatsoever, and without limiting the generality of the foregoing, excludes application or installation of parts not completed in accordance with FAST AG Solutions operator's manual, specifications, or printed instructions.

Written notice shall be given by registered mail, to FAST AG Solutions within seven (7) days after the defect shall have become apparent or the repairs shall have become necessary, addressed as follows:

FAST AG Solutions
4130 Commerce Blvd
Windom, MN 56101

This warranty shall expire one (1) year after the date of delivery of the new machinery.

If these conditions are fulfilled, FAST shall at its own cost and at its own option either repair or replace any defective parts provided that the buyer shall be responsible for all expenses incurred as a result of repairs, labor, parts, transportation or any other work, unless FAST has authorized such expenses in advance.

The warranty shall not extend to any repairs, changes, alterations, or replacements made to the new equipment other than by FAST or its authorized dealers or employees.

This warranty extends only to the original owner of the new equipment.

Rubber parts (including tires, hoses, grommets) are not warranted.

This warranty is limited to the terms stated herein and is in lieu of any other warranties whether express or implied, and without limiting the generality of the foregoing, excluded all warranties, express or implied or conditions whether statutory or otherwise as to quality and fitness for any purpose of the new equipment. FAST disclaims all liability for incidental or consequential damages.

This Applicator is subject to design changes and FAST AG Solutions shall not be required to retrofit or exchange items on previously sold units except at its own option.

FAST AG Solutions

Warranty void if not registered.



Warranty Department

Printed in U.S.A.



ALPHABETICAL INDEX

| | |
|--|-----|
| EQUIPMENT SPECIFICATIONS..... | 26 |
| FEATURES AND ACCESSORIES..... | 5 |
| FIELD OPERATION | 43 |
| FIRE PREVENTION | 11 |
| GENERAL DESCRIPTION | 24 |
| GENERAL INFORMATION AND OPERATING INSTRUCTION SAFETY PRECAUTIONS | 21 |
| ILLUSTRATED PARTS LIST | 69 |
| INTRODUCTION..... | 3 |
| MAINTENANCE AND REPAIR SAFETY PRECAUTIONS | 55 |
| MAINTENANCE PROCEDURES | 62 |
| MAJOR COMPONENTS..... | 25 |
| MANUFACTURER’S INFORMATION..... | 4 |
| POST-OPERATION DISCONNECTION | 48 |
| PRE-OPERATION SETUP | 28 |
| PREVENTATIVE MAINTENANCE..... | 55 |
| PURPOSE OF EQUIPMENT | 24 |
| SAFETY IDENTIFICATION | 14 |
| SAFETY PRECAUTIONS | 9 |
| SERIAL NUMBER LOCATION | 4 |
| SIGN-OFF FORM | 13 |
| SPECIFICATIONS | 64 |
| STORAGE INSTRUCTIONS | 51 |
| TRANSPORTATION..... | 49 |
| TROUBLESHOOTING | 66 |
| WARRANTY..... | 173 |



FAST Ag Solutions
4130 Commerce Boulevard
Windom, MN 56101

1-800-772-9279 Toll Free
1-507-427-3861 Voice
1-507-427-3030 Fax
www.fastsprayers.com