Tumble Dryer

18 Digit Model Number with 3, 4, 5 or 6 in 13th Position

Refer to Page 7 for Model Identification

Troubleshooting

Original Instructions
Keep These Instructions for Future Reference.
CAUTION: Read the instructions before using the machine.
(If this machine changes ownership, this manual must accompany machine.)

Alliance™ Laundry Systems

www.alliancelaundry.com

Part No. 70614401ENR3
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Safety Information

Precautionary statements (“DANGER,” “WARNING,” and “CAUTION”), followed by specific instructions, are found in this manual and on machine decals. These precautions are intended for the personal safety of the operator, user, servicer, and those maintaining the machine.

DANGER

Indicates an imminently hazardous situation that, if not avoided, will cause severe personal injury or death.

WARNING

Indicates a hazardous situation that, if not avoided, could cause severe personal injury or death.

CAUTION

Indicates a hazardous situation that, if not avoided, may cause minor or moderate personal injury or property damage.

Additional precautionary statements (“IMPORTANT” and “NOTE”) are followed by specific instructions.

IMPORTANT: The word “IMPORTANT” is used to inform the reader of specific procedures where minor machine damage will occur if the procedure is not followed.

NOTE: The word “NOTE” is used to communicate installation, operation, maintenance or servicing information that is important but not hazard related.

In the interest of safety, some general precautions relating to the operation of this machine follow.

WARNING

- **Failure to install, maintain and/or operate this product according to the manufacturer’s instructions may result in conditions which can produce serious injury, death and/or property damage.**
- **Do not repair or replace any part of the product or attempt any servicing unless specifically recommended or published in this Service Manual and unless you understand and have the skills to carry out the servicing.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the product is properly grounded and to reduce the risk of fire, electric shock, serious injury or death.**

W006R2

IMPORTANT: During the lifetime of a tumble dryer, it may require service. The information contained in this manual was written and is intended for use by qualified service technicians who are familiar with the safety procedures required in the repair of a tumble dryer, and who are equipped with the proper tools and testing equipment.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:

- **Disconnect electric power to the tumble dryer before servicing.**
- **Never start the tumble dryer with any guards/ panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumble dryer is properly grounded.**

W240R1

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:

- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

WARNING

Repairs that are made to your products by unqualified persons can result in hazards due to improper assembly or adjustments subjecting you, or the inexperienced person making such repairs, to the risk of serious injury, electrical shock, or death.

W007

CAUTION

If you or an unqualified person perform service on your product, you must assume the responsibility for any personal injury or property damage which may result. The manufacturer will not be responsible for any injury or property damage arising from improper service and/or service procedures.

W008

NOTE: The WARNING and IMPORTANT instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. It must be understood that common sense, caution and carefulness are factors which CANNOT be built into this tumble dryer. These factors MUST BE supplied by the person(s) installing, maintaining or operating the tumble dryer.

NOTE: The WARNINGS and IMPORTANT INSTRUCTIONS appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when installing, maintaining or operating the machine.

Always contact your dealer, distributor, service agent or the manufacturer about any problems or conditions you do not understand.

Locating an Authorized Service Person

Alliance Laundry Systems is not responsible for personal injury or property damage resulting from improper service. Review all service information before beginning repairs.

Warranty service must be performed by an authorized technician, using authorized factory parts. If service is required after the warranty expires, Alliance Laundry Systems also recommends contacting an authorized technician and using authorized factory parts.

Safety Warnings and Decals

SAFETY WARNINGS and decals have been provided in key locations to remind you of important precautions for the safe operation and maintenance of your tumble dryer. Please take the time to review these warnings before proceeding with service work.

All decals have been designed and applied to withstand washing and cleaning. Decals should be checked periodically to be sure they have not been damaged, removed, or painted.

Safety Precautions for Servicing Tumble Dryer

Prior to servicing tumble dryer:

- Disconnect electrical service and “lockout” to prevent unintentional connection.
- Shut off supply gas valve.
- Allow machine to cool prior to servicing.

After servicing tumble dryer:

- Control/access panels must be reinstalled.
- Motor/drive/belt guards must be reinstalled.
- Contactor/junction/accessory box covers must be reinstalled.
- Use a non-corrosive leak detection solution to check all pipe connections for gas leaks. DO NOT USE AN OPEN FLAME TO CHECK FOR GAS LEAKS!
- The loading door switch, lint door switch and airflow switch must be operating properly.

Introduction

Model Identification

Information in this manual is applicable to these models. **Refer to the machine serial plate for the model number.**

25 Series (11 Kg)							
BA025E	BU025E	HG025D	HU025E	NH025S	PT025E	SK025E	UH025E
BA025F	BU025F	HG025E	HU025F	NJ025E	PT025L	SK025F	UH025F
BA025L	BU025L	HG025F	HU025L	NJ025L	PT025N	SK025L	UH025L
BA025N	BU025N	HG025L	HU025N	NJ025N	PT025S	SK025N	UH025N
BA025R	BU025R	HG025N	HU025R	NJ025S	PU025E	SK025R	UH025R
BA025S	BU025S	HG025R	HU025S	NK025E	PU025L	SL025E	UH025S
BG025D	GA025E	HG025S	KT025E	NK025L	PU025N	SL025L	UJ025D
BG025E	GA025L	HH025E	KT025L	NK025N	PU025S	SR025E	UJ025E
BG025F	GA025N	HH025F	KT025N	NR025E	SA025E	SR025S	UJ025F
BG025L	GA025S	HH025L	KT025S	NR025S	SA025F	ST025E	UJ025L
BG025N	GG025E	HH025N	MG025D	NU025E	SA025L	ST025F	UJ025N
BG025R	GG025L	HH025R	MG025E	NU025L	SA025N	ST025L	UJ025R
BG025S	GG025N	HH025S	MG025F	NU025N	SA025R	ST025N	UJ025S
BH025E	GG025S	HJ025D	MG025L	NU025S	SA025S	ST025R	UK025E
BH025F	GH025E	HJ025E	MG025N	PA025E	SG025D	ST025S	UK025F
BH025L	GH025L	HJ025F	MG025R	PA025L	SG025E	SU025E	UK025L
BH025N	GH025N	HJ025L	MG025S	PA025N	SG025F	SU025F	UK025N
BH025R	GH025S	HJ025N	MJ025D	PA025S	SG025L	SU025L	UK025R
BH025S	GJ025E	HJ025R	MJ025E	PG025E	SG025N	SU025N	UL025E
BJ025D	GJ025L	HJ025S	MJ025F	PG025L	SG025R	SU025R	UL025L
BJ025E	GJ025N	HK025E	MJ025L	PG025N	SG025S	SU025S	UR025E
BJ025F	GJ025S	HK025F	MJ025N	PG025S	SH025E	UA025E	UR025S
BJ025L	GK025E	HK025L	MJ025R	PH025E	SH025F	UA025F	UT025E
BJ025N	GK025L	HK025N	MJ025S	PH025L	SH025L	UA025L	UT025F
BJ025R	GK025N	HK025R	NA025E	PH025N	SH025N	UA025N	UT025L
BJ025S	GU025E	HL025E	NA025L	PH025S	SH025R	UA025R	UT025N
BK025E	GU025L	HL025L	NA025N	PJ025E	SH025S	UA025S	UT025R
BK025F	GU025N	HR025E	NA025S	PJ025L	SJ025D	UG025D	UT025S

Table continues...

25 Series (11 Kg)							
BK025L	GU025S	HR025S	NG025E	PJ025N	SJ025E	UG025E	UU025E
BK025N	HA025E	HT025E	NG025L	PJ025S	SJ025F	UG025F	UU025F
BK025R	HA025F	HT025F	NG025N	PK025E	SJ025L	UG025L	UU025L
BL025E	HA025L	HT025L	NG025S	PK025L	SJ025N	UG025N	UU025N
BL025L	HA025N	HT025N	NH025E	PK025N	SJ025R	UG025R	UU025R
BR025E	HA025R	HT025R	NH025L	PR025E	SJ025S	UG025S	UU025S
BR025S	HA025S	HT025S	NH025N	PR025S			

30 Series (13 Kg)							
BA030E	BU030E	HG030D	HU030E	NH030S	PT030E	SK030E	UH030E
BA030F	BU030F	HG030E	HU030F	NJ030E	PT030L	SK030F	UH030F
BA030L	BU030L	HG030F	HU030L	NJ030L	PT030N	SK030L	UH030L
BA030N	BU030N	HG030L	HU030N	NJ030N	PT030S	SK030N	UH030N
BA030R	BU030R	HG030N	HU030R	NJ030S	PU030E	SK030R	UH030R
BA030S	BU030S	HG030R	HU030S	NK030E	PU030L	SL030E	UH030S
BG030D	GA030E	HG030S	KT030E	NK030L	PU030N	SL030L	UJ030D
BG030E	GA030L	HH030E	KT030L	NK030N	PU030S	SR030E	UJ030E
BG030F	GA030N	HH030F	KT030N	NR030E	SA030E	SR030S	UJ030F
BG030L	GA030S	HH030L	KT030S	NR030S	SA030F	ST030E	UJ030L
BG030N	GG030E	HH030N	MG030D	NU030E	SA030L	ST030F	UJ030N
BG030R	GG030L	HH030R	MG030E	NU030L	SA030N	ST030L	UJ030R
BG030S	GG030N	HH030S	MG030F	NU030N	SA030R	ST030N	UJ030S
BH030E	GG030S	HJ030D	MG030L	NU030S	SA030S	ST030R	UK030E
BH030F	GH030E	HJ030E	MG030N	PA030E	SG030D	ST030S	UK030F
BH030L	GH030L	HJ030F	MG030R	PA030L	SG030E	SU030E	UK030L
BH030N	GH030N	HJ030L	MG030S	PA030N	SG030F	SU030F	UK030N
BH030R	GH030S	HJ030N	MJ030D	PA030S	SG030L	SU030L	UK030R
BH030S	GJ030E	HJ030R	MJ030E	PG030E	SG030N	SU030N	UL030E
BJ030D	GJ030L	HJ030S	MJ030F	PG030L	SG030R	SU030R	UL030L
BJ030E	GJ030N	HK030E	MJ030L	PG030N	SG030S	SU030S	UR030E
BJ030F	GJ030S	HK030F	MJ030N	PG030S	SH030E	UA030E	UR030S
BJ030L	GK030E	HK030L	MJ030R	PH030E	SH030F	UA030F	UT030E

Table continues...

30 Series (13 Kg)							
BJ030N	GK030L	HK030N	MJ030S	PH030L	SH030L	UA030L	UT030F
BJ030R	GK030N	HK030R	NA030E	PH030N	SH030N	UA030N	UT030L
BJ030S	GU030E	HL030E	NA030L	PH030S	SH030R	UA030R	UT030N
BK030E	GU030L	HL030L	NA030N	PJ030E	SH030S	UA030S	UT030R
BK030F	GU030N	HR030E	NA030S	PJ030L	SJ030D	UG030D	UT030S
BK030L	GU030S	HR030S	NG030E	PJ030N	SJ030E	UG030E	UU030E
BK030N	HA030E	HT030E	NG030L	PJ030S	SJ030F	UG030F	UU030F
BK030R	HA030F	HT030F	NG030N	PK030E	SJ030L	UG030L	UU030L
BL030E	HA030L	HT030L	NG030S	PK030L	SJ030N	UG030N	UU030N
BL030L	HA030N	HT030N	NH030E	PK030N	SJ030R	UG030R	UU030R
BR030E	HA030R	HT030R	NH030L	PR030E	SJ030S	UG030S	UU030S
BR030S	HA030S	HT030S	NH030N	PR030S			

T30 Series (13/13 Kg)							
BAT30E	BUT30E	HGT30D	HUT30E	NHT30S	PTT30E	SKT30E	UHT30E
BAT30F	BUT30F	HGT30E	HUT30F	NJT30E	PTT30L	SKT30F	UHT30F
BAT30L	BUT30L	HGT30F	HUT30L	NJT30L	PTT30N	SKT30L	UHT30L
BAT30N	BUT30N	HGT30L	HUT30N	NJT30N	PTT30S	SKT30N	UHT30N
BAT30R	BUT30R	HGT30N	HUT30R	NJT30S	PUT30E	SKT30R	UHT30R
BAT30S	BUT30S	HGT30R	HUT30S	NKT30E	PUT30L	SLT30E	UHT30S
BGT30D	GAT30E	HGT30S	KTT30E	NKT30L	PUT30N	SLT30L	UJT30D
BGT30E	GAT30L	HHT30E	KTT30L	NKT30N	PUT30S	SRT30E	UJT30E
BGT30F	GAT30N	HHT30F	KTT30N	NRT30E	SAT30E	SRT30S	UJT30F
BGT30L	GAT30S	HHT30L	KTT30S	NRT30S	SAT30F	STT30E	UJT30L
BGT30N	GGT30E	HHT30N	MGT30D	NUT30E	SAT30L	STT30F	UJT30N
BGT30R	GGT30L	HHT30R	MGT30E	NUT30L	SAT30N	STT30L	UJT30R
BGT30S	GGT30N	HHT30S	MGT30F	NUT30N	SAT30R	STT30N	UJT30S
BHT30E	GGT30S	HJT30D	MGT30L	NUT30S	SAT30S	STT30R	UKT30E
BHT30F	GHT30E	HJT30E	MGT30N	PAT30E	SGT30D	STT30S	UKT30F
BHT30L	GHT30L	HJT30F	MGT30R	PAT30L	SGT30E	SUT30E	UKT30L
BHT30N	GHT30N	HJT30L	MGT30S	PAT30N	SGT30F	SUT30F	UKT30N
BHT30R	GHT30S	HJT30N	MJT30D	PAT30S	SGT30L	SUT30L	UKT30R

Table continues...

T30 Series (13/13 Kg)							
BHT30S	GJT30E	HJT30R	MJT30E	PGT30E	SGT30N	SUT30N	ULT30E
BJT30D	GJT30L	HJT30S	MJT30F	PGT30L	SGT30R	SUT30R	ULT30L
BJT30E	GJT30N	HKT30E	MJT30L	PGT30N	SGT30S	SUT30S	URT30E
BJT30F	GJT30S	HKT30F	MJT30N	PGT30S	SHT30E	UAT30E	URT30S
BJT30L	GKT30E	HKT30L	MJT30R	PHT30E	SHT30F	UAT30F	UTT30E
BJT30N	GKT30L	HKT30N	MJT30S	PHT30L	SHT30L	UAT30L	UTT30F
BJT30R	GKT30N	HKT30R	NAT30E	PHT30N	SHT30N	UAT30N	UTT30L
BJT30S	GUT30E	HLT30E	NAT30L	PHT30S	SHT30R	UAT30R	UTT30N
BKT30E	GUT30L	HLT30L	NAT30N	PJT30E	SHT30S	UAT30S	UTT30R
BKT30F	GUT30N	HRT30E	NAT30S	PJT30L	SJT30D	UGT30D	UTT30S
BKT30L	GUT30S	HRT30S	NGT30E	PJT30N	SJT30E	UGT30E	UUT30E
BKT30N	HAT30E	HTT30E	NGT30L	PJT30S	SJT30F	UGT30F	UUT30F
BKT30R	HAT30F	HTT30F	NGT30N	PKT30E	SJT30L	UGT30L	UUT30L
BLT30E	HAT30L	HTT30L	NGT30S	PKT30L	SJT30N	UGT30N	UUT30N
BLT30L	HAT30N	HTT30N	NHT30E	PKT30N	SJT30R	UGT30R	UUT30R
BRT30E	HAT30R	HTT30R	NHT30L	PRT30E	SJT30S	UGT30S	UUT30S
BRT30S	HAT30S	HTT30S	NHT30N	PRT30S			

35 Series (16 Kg)							
BA035E	BU035F	HA035S	HU035E	NH035M	PK035N	SJ035N	UG035R
BA035F	BU035L	HG035D	HU035F	NH035N	PR035E	SJ035R	UG035S
BA035L	BU035M	HG035E	HU035L	NH035S	PR035S	SJ035S	UH035E
BA035M	BU035N	HG035F	HU035M	NJ035E	PT035E	SK035E	UH035F
BA035N	BU035R	HG035L	HU035N	NJ035L	PT035L	SK035F	UH035L
BA035R	BU035S	HG035M	HU035R	NJ035M	PT035M	SK035L	UH035M
BA035S	GA035E	HG035N	HU035S	NJ035N	PT035N	SK035N	UH035N
BG035D	GA035L	HG035R	KT035E	NJ035S	PT035S	SK035R	UH035R
BG035E	GA035M	HG035S	KT035L	NK035E	PU035E	SL035E	UH035S
BG035F	GA035N	HH035E	KT035M	NK035L	PU035L	SL035L	UJ035D
BG035L	GA035S	HH035F	KT035N	NK035N	PU035M	SR035E	UJ035E
BG035M	GG035E	HH035L	KT035S	NR035E	PU035N	SR035S	UJ035F
BG035N	GG035L	HH035M	MG035D	NR035S	PU035S	ST035E	UJ035L

Table continues...

35 Series (16 Kg)							
BG035R	GG035M	HH035N	MG035E	NU035E	SA035E	ST035F	UJ035M
BG035S	GG035N	HH035R	MG035F	NU035L	SA035F	ST035L	UJ035N
BH035E	GG035S	HH035S	MG035L	NU035M	SA035L	ST035M	UJ035R
BH035F	GH035E	HJ035D	MG035M	NU035N	SA035M	ST035N	UJ035S
BH035L	GH035L	HJ035E	MG035N	NU035S	SA035N	ST035R	UK035E
BH035M	GH035M	HJ035F	MG035R	PA035E	SA035R	ST035S	UK035F
BH035N	GH035N	HJ035L	MG035S	PA035L	SA035S	SU035E	UK035L
BH035R	GH035S	HJ035M	MJ035D	PA035M	SG035D	SU035F	UK035N
BH035S	GJ035E	HJ035N	MJ035E	PA035N	SG035E	SU035L	UK035R
BJ035D	GJ035L	HJ035R	MJ035F	PA035S	SG035F	SU035M	UL035E
BJ035E	GJ035M	HJ035S	MJ035L	PG035E	SG035L	SU035N	UL035L
BJ035F	GJ035N	HK035E	MJ035M	PG035L	SG035M	SU035P	UR035E
BJ035L	GJ035S	HK035F	MJ035N	PG035M	SG035N	SU035R	UR035S
BJ035M	GK035E	HK035L	MJ035R	PG035N	SG035R	SU035S	UT035E
BJ035N	GK035L	HK035N	MJ035S	PG035S	SG035S	UA035E	UT035F
BJ035R	GK035N	HK035R	NA035E	PH035E	SH035E	UA035F	UT035L
BJ035S	GU035E	HL035E	NA035L	PH035L	SH035F	UA035L	UT035M
BK035E	GU035L	HL035L	NA035M	PH035M	SH035L	UA035M	UT035N
BK035F	GU035M	HR035E	NA035N	PH035N	SH035M	UA035N	UT035R
BK035L	GU035N	HR035S	NA035S	PH035S	SH035N	UA035R	UT035S
BK035N	GU035S	HT035E	NG035E	PJ035E	SH035R	UA035S	UU035E
BK035R	HA035E	HT035F	NG035L	PJ035L	SH035S	UG035D	UU035F
BL035E	HA035F	HT035L	NG035M	PJ035M	SJ035D	UG035E	UU035L
BL035L	HA035L	HT035M	NG035N	PJ035N	SJ035E	UG035F	UU035M
BR035E	HA035M	HT035N	NG035S	PJ035S	SJ035F	UG035L	UU035N
BR035S	HA035N	HT035R	NH035E	PK035E	SJ035L	UG035M	UU035R
BU035E	HA035R	HT035S	NH035L	PK035L	SJ035M	UG035N	UU035S

T45 Series (20/20 Kg) * Only available in gas							
BAT45L	BUT45L	HGT45D	HUT45L	NHT45N	PTT45N	SKT45L	UHT45L
BAT45N	BUT45N	HGT45L	HUT45N	NJT45L	PUT45L	SKT45N	UHT45N
BAT45R	BUT45R	HGT45N	HUT45R	NJT45N	PUT45N	SKT45R	UHT45R

Table continues...

T45 Series (20/20 Kg) * Only available in gas							
BGT45D	GAT45L	HGT45R	KTT45L	NKT45L	SAT45L	SLT45L	UJT45D
BGT45L	GAT45N	HHT45L	KTT45N	NKT45N	SAT45N	STT45L	UJT45L
BGT45N	GGT45L	HHT45N	MGT45D	NUT45L	SAT45R	STT45N	UJT45N
BGT45R	GGT45N	HHT45R	MGT45L	NUT45N	SGT45D	STT45R	UJT45R
BHT45L	GHT45L	HJT45D	MGT45N	PAT45L	SGT45L	SUT45L	UKT45L
BHT45N	GHT45N	HJT45L	MGT45R	PAT45N	SGT45N	SUT45N	UKT45N
BHT45R	GJT45L	HJT45N	MJT45D	PGT45L	SGT45R	SUT45R	UKT45R
BJT45D	GJT45N	HJT45R	MJT45L	PGT45N	SHT45L	UAT45L	ULT45L
BJT45L	GKT45L	HKT45L	MJT45N	PHT45L	SHT45N	UAT45N	UTT45L
BJT45N	GKT45N	HKT45N	MJT45R	PHT45N	SHT45R	UAT45R	UTT45N
BJT45R	GUT45L	HKT45R	NAT45L	PJT45L	SJT45D	UGT45D	UTT45R
BKT45L	GUT45N	HLT45L	NAT45N	PJT45N	SJT45L	UGT45L	UUT45L
BKT45N	HAT45L	HTT45L	NGT45L	PKT45L	SJT45N	UGT45N	UUT45N
BKT45R	HAT45N	HTT45N	NGT45N	PKT45N	SJT45R	UGT45R	UUT45R
BLT45L	HAT45R	HTT45R	NHT45L	PTT45L			

50 Pound (25 Kg)							
BA050E	BU050S	HG050D	HU050N	NJ050E	PJ050S	SJ050D	UG050N
BA050L	GA050E	HG050E	HU050S	NJ050L	PK050E	SJ050E	UG050S
BA050N	GA050L	HG050L	KT050E	NJ050N	PK050L	SJ050L	UH050E
BA050S	GA050N	HG050N	KT050L	NJ050S	PK050N	SJ050N	UH050L
BG050D	GA050S	HG050S	KT050N	NK050E	PR050E	SJ050S	UH050N
BG050E	GG050E	HH050E	KT050S	NK050L	PR050S	SK050E	UH050S
BG050L	GG050L	HH050L	MG050D	NK050N	PT050C	SK050L	UJ050D
BG050N	GG050N	HH050N	MG050E	NR050E	PT050E	SK050N	UJ050E
BG050S	GG050S	HH050S	MG050L	NR050S	PT050L	SL050E	UJ050L
BH050E	GH050E	HJ050D	MG050N	NU050E	PT050N	SL050L	UJ050N
BH050L	GH050L	HJ050E	MG050S	NU050L	PT050S	SR050E	UJ050S
BH050N	GH050N	HJ050L	MJ050D	NU050N	PU050E	SR050S	UK050E
BH050S	GH050S	HJ050N	MJ050E	NU050S	PU050L	ST050C	UK050L
BJ050D	GJ050E	HJ050S	MJ050L	PA050E	PU050N	ST050E	UK050N
BJ050E	GJ050L	HK050E	MJ050N	PA050L	PU050S	ST050L	UL050E

Table continues...

50 Pound (25 Kg)							
BJ050L	GJ050N	HK050L	MJ050S	PA050N	SA050E	ST050N	UL050L
BJ050N	GJ050S	HK050N	NA050E	PA050S	SA050L	ST050S	UR050E
BJ050S	GK050E	HL050E	NA050L	PG050E	SA050N	SU050E	UR050S
BK050E	GK050L	HL050L	NA050N	PG050L	SA050S	SU050L	UT050C
BK050L	GK050N	HR050E	NA050S	PG050N	SG050D	SU050N	UT050E
BK050N	GU050E	HR050S	NG050E	PG050S	SG050E	SU050S	UT050L
BL050E	GU050L	HT050C	NG050L	PH050E	SG050L	UA050E	UT050N
BL050L	GU050N	HT050E	NG050N	PH050L	SG050N	UA050L	UT050S
BR050E	GU050S	HT050L	NG050S	PH050N	SG050S	UA050N	UU050E
BR050S	HA050E	HT050N	NH050E	PH050S	SH050E	UA050S	UU050L
BU050E	HA050L	HT050S	NH050L	PJ050E	SH050L	UG050D	UU050N
BU050L	HA050N	HU050E	NH050N	PJ050L	SH050N	UG050E	UU050S
BU050N	HA050S	HU050L	NH050S	PJ050N	SH050S	UG050L	

55 Series (24 Kg) * Only available in gas and electric							
BA055E	BR055E	HG055D	HT055R	NH055N	PT055N	SK055L	UH055F
BA055F	BU055E	HG055E	HU055E	NJ055E	PU055E	SK055N	UH055L
BA055L	BU055F	HG055F	HU055F	NJ055L	PU055L	SK055R	UH055N
BA055N	BU055L	HG055L	HU055L	NJ055N	PU055N	SL055E	UH055R
BA055R	BU055N	HG055N	HU055N	NK055E	SA055E	SL055L	UJ055D
BG055D	BU055R	HG055R	HU055R	NK055L	SA055F	SR055E	UJ055E
BG055E	GA055E	HH055E	KT055E	NK055N	SA055L	ST055E	UJ055F
BG055F	GA055L	HH055F	KT055L	NR055E	SA055N	ST055F	UJ055L
BG055L	GA055N	HH055L	KT055N	NU055E	SA055R	ST055L	UJ055N
BG055N	GG055E	HH055N	MG055D	NU055L	SG055D	ST055N	UJ055R
BG055R	GG055L	HH055R	MG055E	NU055N	SG055E	ST055R	UK055E
BH055E	GG055N	HJ055D	MG055F	PA055E	SG055F	SU055E	UK055F
BH055F	GH055E	HJ055E	MG055L	PA055L	SG055L	SU055F	UK055L
BH055L	GH055L	HJ055F	MG055N	PA055N	SG055N	SU055L	UK055N
BH055N	GH055N	HJ055L	MG055R	PG055E	SG055R	SU055N	UK055R
BH055R	GJ055E	HJ055N	MJ055D	PG055L	SH055E	SU055R	UL055E
BJ055D	GJ055L	HJ055R	MJ055E	PG055N	SH055F	UA055E	UL055L

Table continues...

55 Series (24 Kg) * Only available in gas and electric							
BJ055E	GJ055N	HK055E	MJ055F	PH055E	SH055L	UA055F	UR055E
BJ055F	GK055E	HK055F	MJ055L	PH055L	SH055N	UA055L	UT055E
BJ055L	GK055L	HK055L	MJ055N	PH055N	SH055R	UA055N	UT055F
BJ055N	GK055N	HK055N	MJ055R	PJ055E	SJ055D	UA055R	UT055L
BJ055R	GU055E	HK055R	NA055E	PJ055L	SJ055E	UG055D	UT055N
BK055E	GU055L	HL055E	NA055L	PJ055N	SJ055F	UG055E	UT055R
BK055F	GU055N	HL055L	NA055N	PK055E	SJ055L	UG055F	UU055E
BK055L	HA055E	HR055E	NG055E	PK055L	SJ055N	UG055L	UU055F
BK055N	HA055F	HT055E	NG055L	PK055N	SJ055R	UG055N	UU055L
BK055R	HA055L	HT055F	NG055N	PR055E	SK055E	UG055R	UU055N
BL055E	HA055N	HT055L	NH055E	PT055E	SK055F	UH055E	UU055R
BL055L	HA055R	HT055N	NH055L	PT055L			

75 Pound (34 Kg)							
BA075E	BU075M	HG075E	HU075M	NJ075E	PT075C	SJ075S	UH075E
BA075F	BU075N	HG075F	HU075N	NJ075L	PT075E	SK075E	UH075F
BA075L	BU075R	HG075L	HU075R	NJ075M	PT075L	SK075F	UH075L
BA075M	BU075S	HG075M	HU075S	NJ075N	PT075M	SK075L	UH075M
BA075N	GA075E	HG075N	KT075E	NJ075S	PT075N	SK075N	UH075N
BA075R	GA075L	HG075R	KT075L	NK075E	PT075S	SK075R	UH075R
BA075S	GA075M	HG075S	KT075M	NK075L	PU075E	SR075E	UH075S
BG075D	GA075N	HH075E	KT075N	NK075N	PU075L	SR075S	UJ075D
BG075E	GA075S	HH075F	KT075S	NR075E	PU075M	ST075C	UJ075E
BG075F	GG075E	HH075L	MG075D	NR075S	PU075N	ST075E	UJ075F
BG075L	GG075L	HH075M	MG075E	NU075E	PU075S	ST075F	UJ075L
BG075M	GG075M	HH075N	MG075F	NU075L	SA075E	ST075L	UJ075M
BG075N	GG075N	HH075R	MG075L	NU075M	SA075F	ST075M	UJ075N
BG075R	GG075S	HH075S	MG075M	NU075N	SA075L	ST075N	UJ075R
BG075S	GH075E	HJ075D	MG075N	NU075S	SA075M	ST075R	UJ075S
BH075E	GH075L	HJ075E	MG075R	PA075E	SA075N	ST075S	UK075E
BH075F	GH075M	HJ075F	MG075S	PA075L	SA075R	SU075E	UK075F
BH075L	GH075N	HJ075L	MJ075D	PA075M	SA075S	SU075F	UK075L

Table continues...

75 Pound (34 Kg)							
BH075M	GH075S	HJ075M	MJ075E	PA075N	SG075D	SU075L	UK075N
BH075N	GJ075E	HJ075N	MJ075F	PA075S	SG075E	SU075M	UK075R
BH075R	GJ075L	HJ075R	MJ075L	PG075E	SG075F	SU075N	UR075E
BH075S	GJ075M	HJ075S	MJ075M	PG075L	SG075L	SU075R	UR075S
BJ075D	GJ075N	HK075E	MJ075N	PG075M	SG075M	SU075S	UT075C
BJ075E	GJ075S	HK075F	MJ075R	PG075N	SG075N	UA075E	UT075E
BJ075F	GK075E	HK075L	MJ075S	PG075S	SG075R	UA075F	UT075F
BJ075L	GK075L	HK075N	NA075E	PH075E	SG075S	UA075L	UT075L
BJ075M	GK075N	HK075R	NA075L	PH075L	SH075E	UA075M	UT075M
BJ075N	GU075E	HR075E	NA075M	PH075M	SH075F	UA075N	UT075N
BJ075R	GU075L	HR075S	NA075N	PH075N	SH075L	UA075R	UT075R
BJ075S	GU075M	HT075C	NA075S	PH075S	SH075M	UA075S	UT075S
BK075E	GU075N	HT075E	NG075E	PJ075E	SH075N	UG075D	UTF75L
BK075F	GU075S	HT075F	NG075L	PJ075L	SH075R	UG075E	UTF75N
BK075L	HA075E	HT075L	NG075M	PJ075M	SH075S	UG075F	UU075E
BK075N	HA075F	HT075M	NG075N	PJ075N	SJ075D	UG075L	UU075F
BK075R	HA075L	HT075N	NG075S	PJ075S	SJ075E	UG075M	UU075L
BR075E	HA075M	HT075R	NH075E	PK075E	SJ075F	UG075N	UU075M
BR075S	HA075N	HT075S	NH075L	PK075L	SJ075L	UG075R	UU075N
BU075E	HA075R	HU075E	NH075M	PK075N	SJ075M	UG075S	UU075R
BU075F	HA075S	HU075F	NH075N	PR075E	SJ075N	UGF75L	UU075S
BU075L	HG075D	HU075L	NH075S	PR075S	SJ075R	UGF75N	

120 Pound (55 Kg)							
BA120E	GA120E	HA120N	HU120L	NK120N	PK120N	SJ120E	UG120N
BA120L	GA120L	HA120S	HU120N	NR120E	PR120E	SJ120L	UG120S
BA120N	GA120N	HG120E	HU120S	NR120S	PR120S	SJ120N	UH120E
BA120S	GA120S	HG120L	KT120E	NU120E	PT120C	SJ120S	UH120L
BG120E	GG120E	HG120N	KT120L	NU120L	PT120E	SK120E	UH120N
BG120L	GG120L	HG120S	KT120N	NU120N	PT120L	SK120L	UH120S
BG120N	GG120N	HH120E	KT120S	NU120S	PT120N	SK120N	UJ120E
BG120S	GG120S	HH120L	NA120E	PA120E	PT120S	SR120E	UJ120L

Table continues...

120 Pound (55 Kg)							
BH120E	GH120E	HH120N	NA120L	PA120L	PU120E	SR120S	UJ120N
BH120L	GH120L	HH120S	NA120N	PA120N	PU120L	ST120C	UJ120S
BH120N	GH120N	HJ120E	NA120S	PA120S	PU120N	ST120E	UK120E
BH120S	GH120S	HJ120L	NG120E	PG120E	PU120S	ST120L	UK120L
BJ120E	GJ120E	HJ120N	NG120L	PG120L	SA120E	ST120N	UK120N
BJ120L	GJ120L	HJ120S	NG120N	PG120N	SA120L	ST120S	UR120E
BJ120N	GJ120N	HK120E	NG120S	PG120S	SA120N	SU120E	UR120S
BJ120S	GJ120S	HK120L	NH120E	PH120E	SA120S	SU120L	UT120C
BK120E	GK120E	HK120N	NH120L	PH120L	SG120E	SU120N	UT120E
BK120L	GK120L	HR120E	NH120N	PH120N	SG120L	SU120S	UT120L
BK120N	GK120N	HR120S	NH120S	PH120S	SG120N	UA120E	UT120N
BR120E	GU120E	HT120C	NJ120E	PJ120E	SG120S	UA120L	UT120S
BR120S	GU120L	HT120E	NJ120L	PJ120L	SH120E	UA120N	UU120E
BU120E	GU120N	HT120L	NJ120N	PJ120N	SH120L	UA120S	UU120L
BU120L	GU120S	HT120N	NJ120S	PJ120S	SH120N	UG120E	UU120N
BU120N	HA120E	HT120S	NK120E	PK120E	SH120S	UG120L	UU120S
BU120S	HA120L	HU120E	NK120L	PK120L			

170 Pound (77 Kg) *Only available in gas and steam							
BA170L	GA170L	HA170N	HU170L	NK170L	PK170L	SH170S	UG170N
BA170N	GA170N	HA170S	HU170N	NK170N	PK170N	SJ170L	UG170S
BA170S	GA170S	HG170L	HU170S	NR170S	PR170S	SJ170N	UH170L
BG170L	GG170L	HG170N	KT170L	NU170L	PT170C	SJ170S	UH170N
BG170N	GG170N	HG170S	KT170N	NU170N	PT170L	SK170L	UH170S
BG170S	GG170S	HH170L	KT170S	NU170S	PT170N	SK170N	UJ170L
BH170L	GH170L	HH170N	NA170L	PA170L	PT170S	SR170S	UJ170N
BH170N	GH170N	HH170S	NA170N	PA170N	PU170L	ST170C	UJ170S
BH170S	GH170S	HJ170L	NA170S	PA170S	PU170N	ST170L	UK170L
BJ170L	GJ170L	HJ170N	NG170L	PG170L	PU170S	ST170N	UK170N
BJ170N	GJ170N	HJ170S	NG170N	PG170N	SA170L	ST170S	UR170S
BJ170S	GJ170S	HK170L	NG170S	PG170S	SA170N	SU170L	UT170C
BK170L	GK170L	HK170N	NH170L	PH170L	SA170S	SU170N	UT170L

Table continues...

170 Pound (77 Kg) *Only available in gas and steam							
BK170N	GK170N	HR170S	NH170N	PH170N	SG170L	SU170S	UT170N
BR170S	GU170L	HT170C	NH170S	PH170S	SG170N	UA170L	UT170S
BU170L	GU170N	HT170L	NJ170L	PJ170L	SG170S	UA170N	UU170L
BU170N	GU170S	HT170N	NJ170N	PJ170N	SH170L	UA170S	UU170N
BU170S	HA170L	HT170S	NJ170S	PJ170S	SH170N	UG170L	UU170S

200 Pound (90 Kg) *Only available in gas and steam							
BA200L	GA200L	HA200N	HU200L	NK200L	PK200L	SH200S	UG200N
BA200N	GA200N	HA200S	HU200N	NK200N	PK200N	SJ200L	UG200S
BA200S	GA200S	HG200L	HU200S	NR200S	PR200S	SJ200N	UH200L
BG200L	GG200L	HG200N	KT200L	NU200L	PT200C	SJ200S	UH200N
BG200N	GG200N	HG200S	KT200N	NU200N	PT200L	SK200L	UH200S
BG200S	GG200S	HH200L	KT200S	NU200S	PT200N	SK200N	UJ200L
BH200L	GH200L	HH200N	NA200L	PA200L	PT200S	SR200S	UJ200N
BH200N	GH200N	HH200S	NA200N	PA200N	PU200L	ST200C	UJ200S
BH200S	GH200S	HJ200L	NA200S	PA200S	PU200N	ST200L	UK200L
BJ200L	GJ200L	HJ200N	NG200L	PG200L	PU200S	ST200N	UK200N
BJ200N	GJ200N	HJ200S	NG200N	PG200N	SA200L	ST200S	UR200S
BJ200S	GJ200S	HK200L	NG200S	PG200S	SA200N	SU200L	UT200C
BK200L	GK200L	HK200N	NH200L	PH200L	SA200S	SU200N	UT200L
BK200N	GK200N	HR200S	NH200N	PH200N	SG200L	SU200S	UT200N
BR200S	GU200L	HT200C	NH200S	PH200S	SG200N	UA200L	UT200S
BU200L	GU200N	HT200L	NJ200L	PJ200L	SG200S	UA200N	UU200L
BU200N	GU200S	HT200N	NJ200N	PJ200N	SH200L	UA200S	UU200N
BU200S	HA200L	HT200S	NJ200S	PJ200S	SH200N	UG200L	UU200S

Heater Digit (Position 6)
C - Steam (CRN)
D - Liquid Petroleum (L.P.) Gas, Japan
E - Electric
F - Reduced Electric (Eco Line)
L - L.P. Gas

Table continues...

Heater Digit (Position 6)
M - Medium Electric
N - Natural Gas
P - Low Electric
R - Reduced Gas, Natural Gas (Eco Line)
S - Steam

Vended Control Suffixes		
Control Digit (position 7)	**Actuation Digit (position 8)**	**Example Control Suffix Combination**
B N W V	C - Single Coin Drop D - Dual Coin Drop E - Electronic Coin Drop F - Single Coin Drop + CD Lock and Key H - Electronic Coin Drop + CD Lock and Key L - Prep for Central Pay Q - Dual Coin Drop + CD Lock and Key T - Token Drop V - Token Drop + CD Lock and Key X - Prep for Coin Y - Prep for Card	BC WX

OPL Control Suffixes		
Control Digit (position 7)	**Actuation Digit (position 8)**	**Example Control Suffix Combination**
D F N V	N - OPL	FN NN

Contact Information

If service is required, contact the nearest Factory Authorized Service Center.

If you are unable to locate an authorized service center or are unsatisfied with the service performed on your unit, contact:

Alliance Laundry Systems
Shepard Street
P.O. Box 990

Ripon, WI 54971-0990
U.S.A.
www.alliancelaundry.com
Phone: +1 (920) 748-3121 Ripon, Wisconsin

When calling or writing about your unit, PLEASE GIVE THE MODEL AND SERIAL NUMBERS. The model and serial numbers are located on the serial plate. The serial plate will be in the location shown in *Figure 1* .

Date Purchased _____

Model Number _____

Serial Number _____

Please include a copy of your bill of sale and any service receipts you have.

WARNING

To reduce the risk of serious injury or death, DO NOT repair or replace any part of the unit or attempt any servicing unless specifically recommended in the user-maintenance instructions or in published user-repair instructions that you understand and have the skills to carry out.

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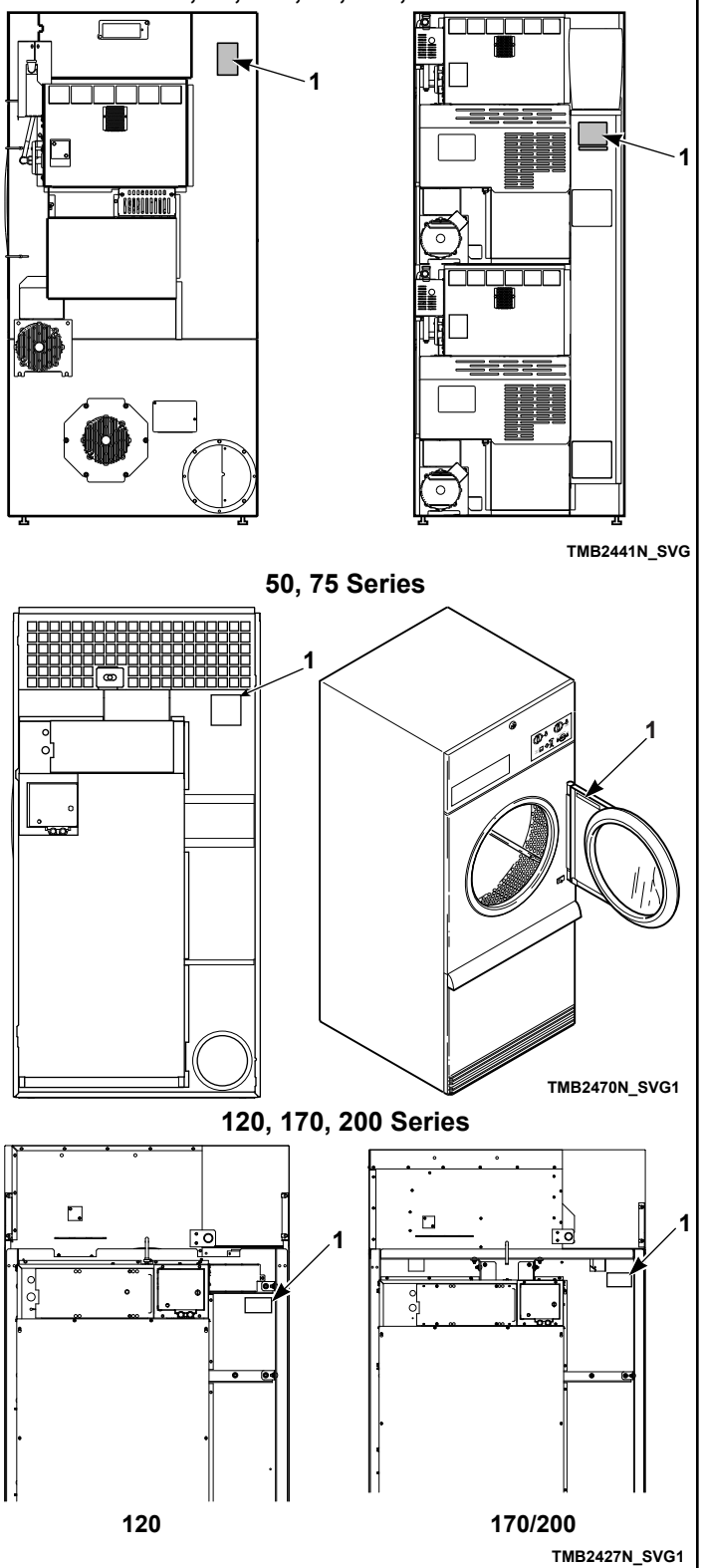
If replacement parts are required, contact the source from where you purchased your unit or call +1 (920) 748-3950 for the name and address of the nearest authorized parts distributor.



1. Serial Plate

Figure 1

Wiring Diagram

The wiring diagram is located inside the junction or contactor box.

The wiring diagram part number is in the lower portion of the electrical data on the serial plate.

How a Tumble Dryer Works

A tumble dryer uses heated air to dry loads of laundry. Refer to *Figure 2* .

1. When the motor is started, the exhaust fan pulls room temperature air in through the air intake at the rear of the tumble dryer and over the heat source (burner flame for gas, heating element for electric, and coil for steam).
2. The heated air moves into the cylinder, where it is circulated through the wet load by the tumbling action of the cylinder.
3. The air then passes through the lint filter, exhaust fan, and is vented to the outdoors.

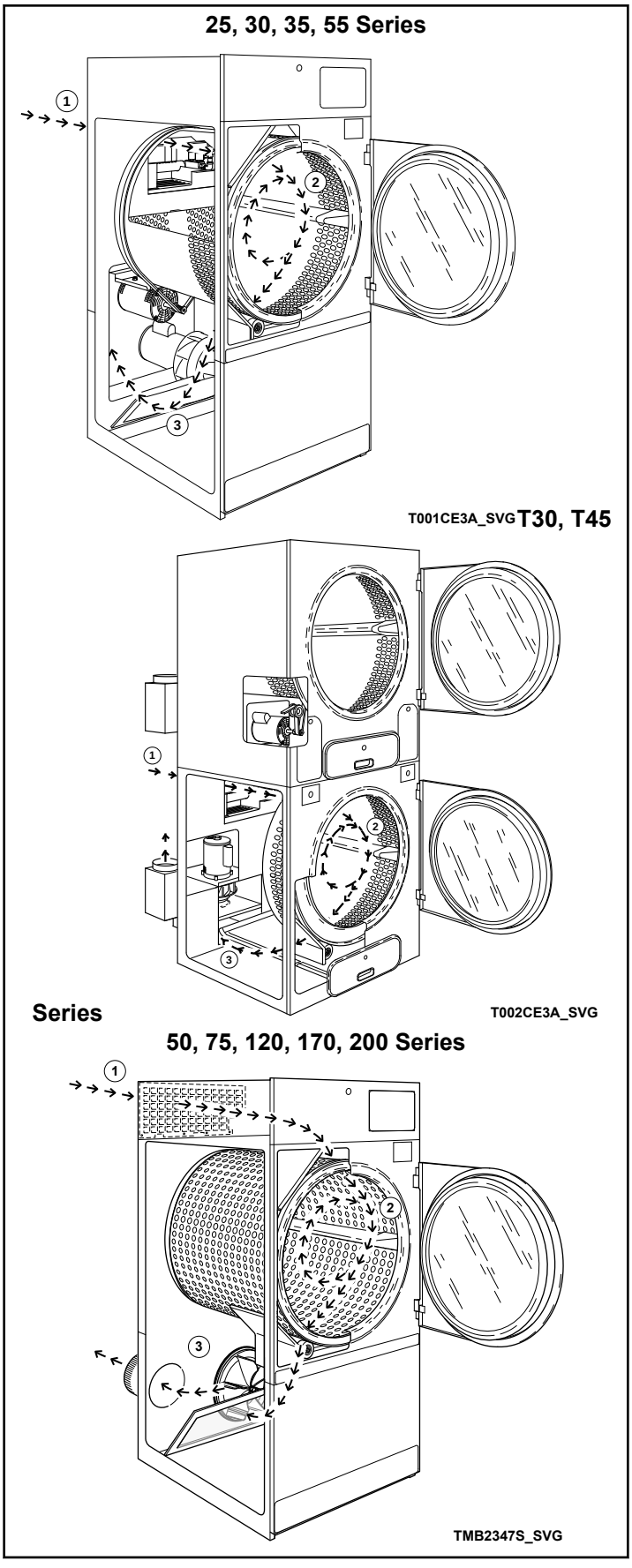


Figure 2

Theory of Operation of Instant Electronic Ignition

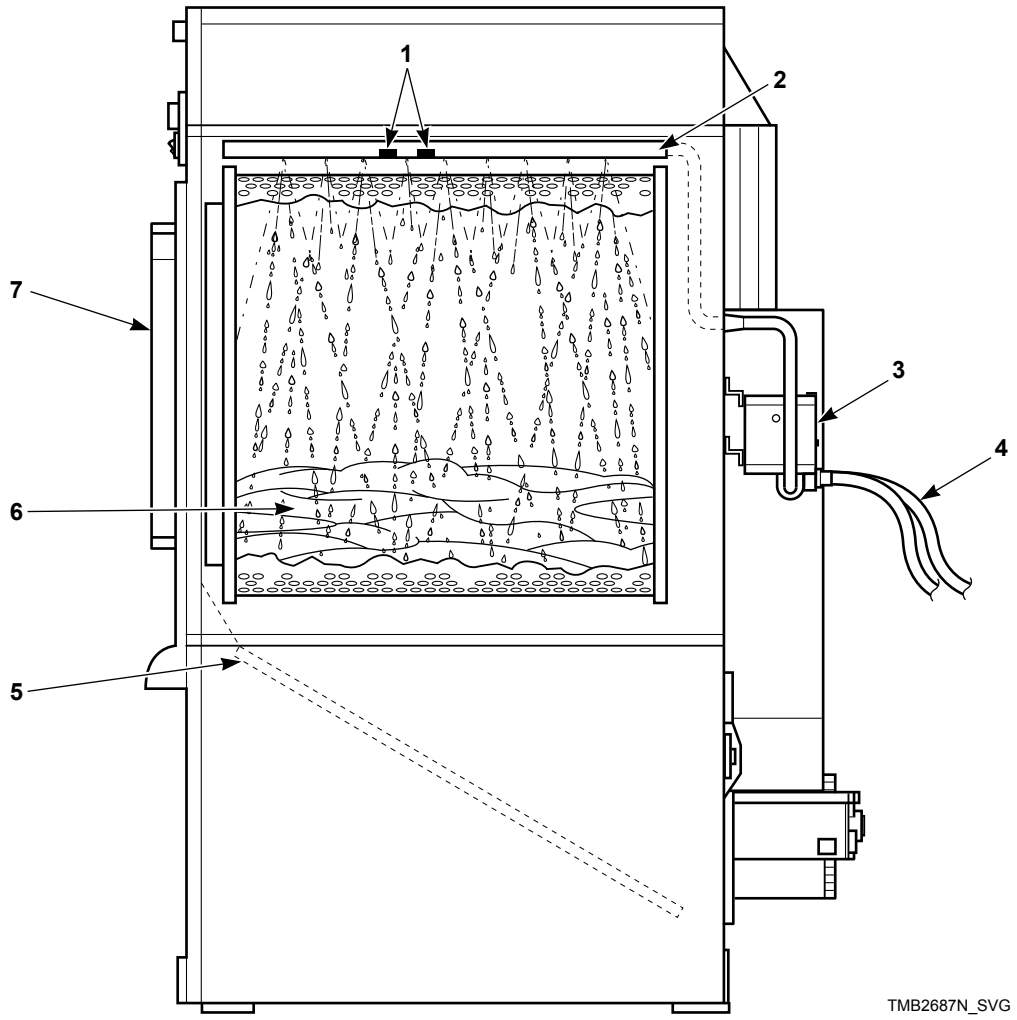
IMPORTANT: The electronic ignition system will attempt to light the gas by sparking for the "trial for ignition" period. If gas does not ignite within this period, the ignition control will go into a safety lockout and the valve will no longer open until the control is reset. On CSA models, the electronic ignition system is automatically reset. On AGA and IEC models the electronic ignition system must be manually reset. The control will pause the cycle and indicate that the ignition control needs to be reset. To reset the ignition control, press start key on the control while the access panel switch for single models or manual programming connector (bullet connector) for stack models is opened for one second. The control will then prompt for the start key to be pressed again to restart the cycle. On all models, ignition lockout may occur due to air in the gas line or the gas shut-off valve being in the OFF position. If the air is bled out of the gas line, the gas shut-off valve is in the ON position, the gas service is properly connected and the tumble dryer continues to have heater errors and/or prompts for the ignition control to be reset, remove the tumble dryer from service.

1. Check resistance of high tension lead (approximately 1000 ohms/inch), and replace if not within resistance range.
2. Check voltage present at valve.
3. Check that machine is properly grounded.
4. Check the gap between igniter and burner tube (gap should be 0.25-0.375 inch [6-10 mm]).
5. Check that burner ports are not blocked or plugged under the igniter.

Fire Suppression System Theory of Operation

IMPORTANT: The fire suppression system is designed to diminish a laundry fire starting inside a fire suppression system equipped tumble dryer. The fire suppression system is not designed to stop or eliminate high temperature and spontaneous combustion situations. Follow all instructions in the installation manual to ensure the fire suppression system operates properly. Train all operators in the proper preventative maintenance of the fire suppression system.

IMPORTANT: For safety purposes, do not operate tumble dryer if a fire has occurred.

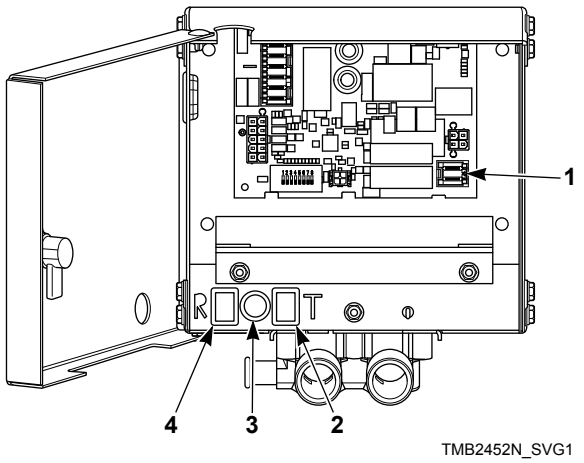


1. Temperature Sensors
2. Water Manifold
3. Fire Suppression System Control Box
4. Water Flow to Machine
5. Lint Screen
6. Load
7. Loading Door

Figure 3

Temperature Sensor

Two temperature sensors are located in the cylinder area of the tumble dryer to provide temperature readings. Refer to *Figure 3* and *Figure 4* . These temperature sensors will trigger a mode change based on a pre-set temperature trip-point.



1. Auxiliary Alarm Fast-On Connection (there is a plastic shield over the control board that must be tipped down to access this connection)
2. Test Button
3. Light
4. Reset Button

Figure 4

Modes of Operation

The fire suppression system runs through each mode as listed, unless otherwise specified. Refer to information below.

1. Power-Up Mode
2. Idle Mode
3. Power Disconnect Mode
4. Water on Mode
5. Lockout Mode
6. Lockout Error Mode

Power-Up Mode: Sends power to control, begins a status check of the system. Can send control into Idle Mode or Lockout Mode.

Idle Mode: Machine is operable while it monitors temperature sensor readings. Control will enter Power Disconnect Mode if temperature trip-point is exceeded. Can also send control to Lockout Mode.

Power Disconnect Mode: Machine is disabled and controls on front will not operate, will enter Power Disconnect Mode for one second, then Water On Mode.

Water on Mode: Machine is disabled and controls on front will not operate. Remain in this mode for 90 seconds, then enter Lockout Mode. Can enter Lockout Error Mode if both temperature sensors become open, which occurs when temperature is below 40° F (4° C). Will enter Idle Mode if reset button is pressed. Refer to *Figure 4* .

Lockout Mode: Machine is disabled and controls on front will not operate. Control monitors temperature readings. Enters Water On Mode if temperature trip-point is exceeded. Will enter Idle Mode if reset button is pressed.

Lockout Error Mode: Machine is disabled and controls on front will not operate. Water dispenses for four minutes. When the reset button is pressed, the control enters Idle Mode.

Troubleshooting

CAUTION

To reduce the risk of electric shock, fire, explosion, serious injury or death:

- **Disconnect electric power to the tumble dryer before servicing.**
- **Close gas shut-off valve to gas tumble dryer before servicing.**
- **Close steam valve to steam tumble dryer before servicing.**
- **Never start the tumble dryer with any guards/ panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumble dryer is properly grounded.**

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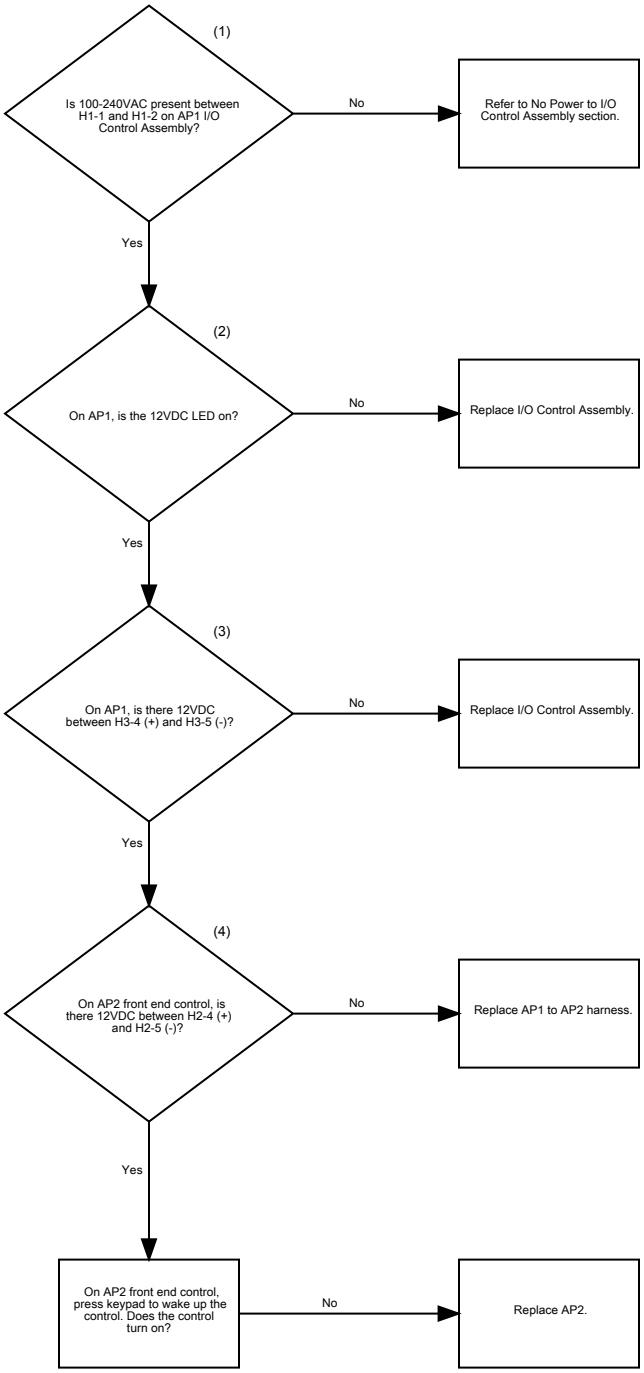
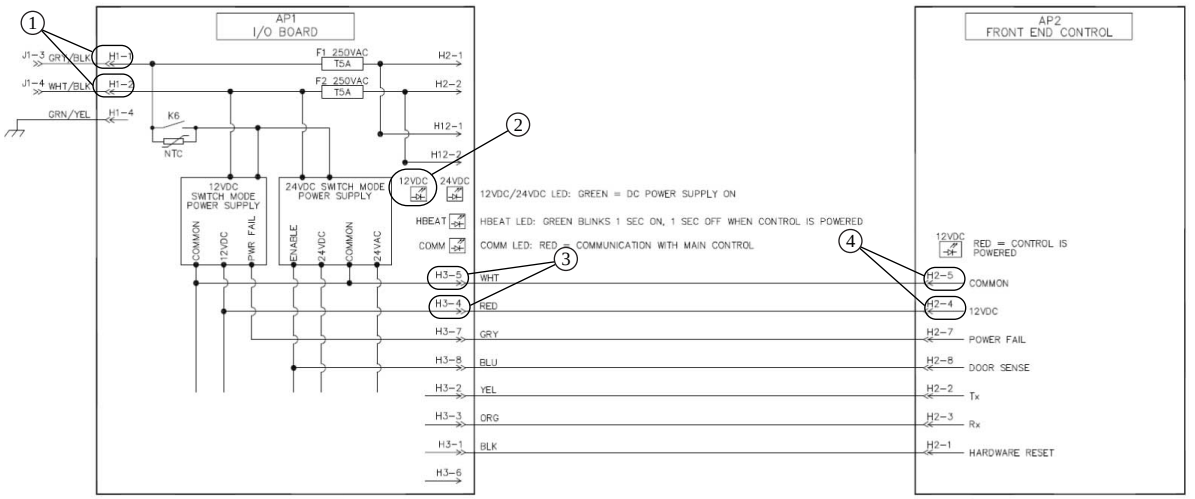
IMPORTANT: Refer to appropriate wiring diagram for aid in testing tumble dryer components.

No Display



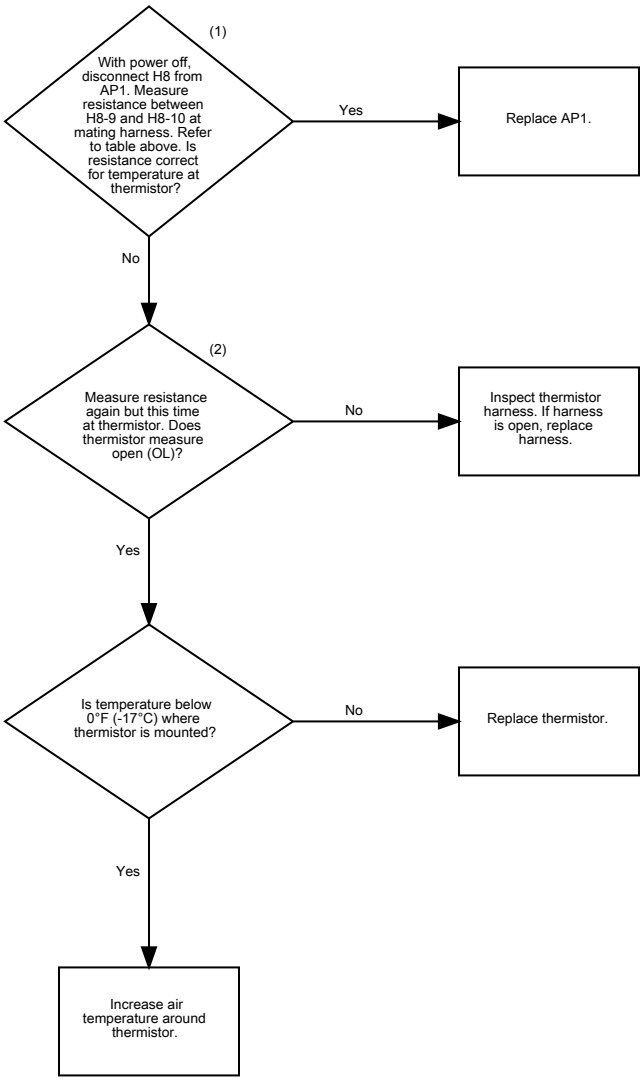
No Display



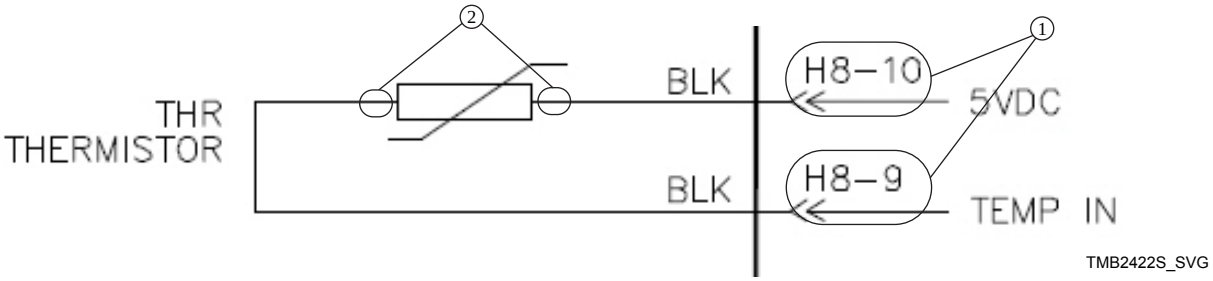
TMB2421S_SVG

Open Thermistor "E oP"

At 68°F [20°C], resistance should be 59,400 Ohms.
At 77°F [25°C], resistance should be 50,000 Ohms.
At 86°F [30°C], resistance should be 40,285 Ohms.
At 95°F [35°C], resistance should be 32,660 Ohms.
Resistance should decrease as the temperature increases.

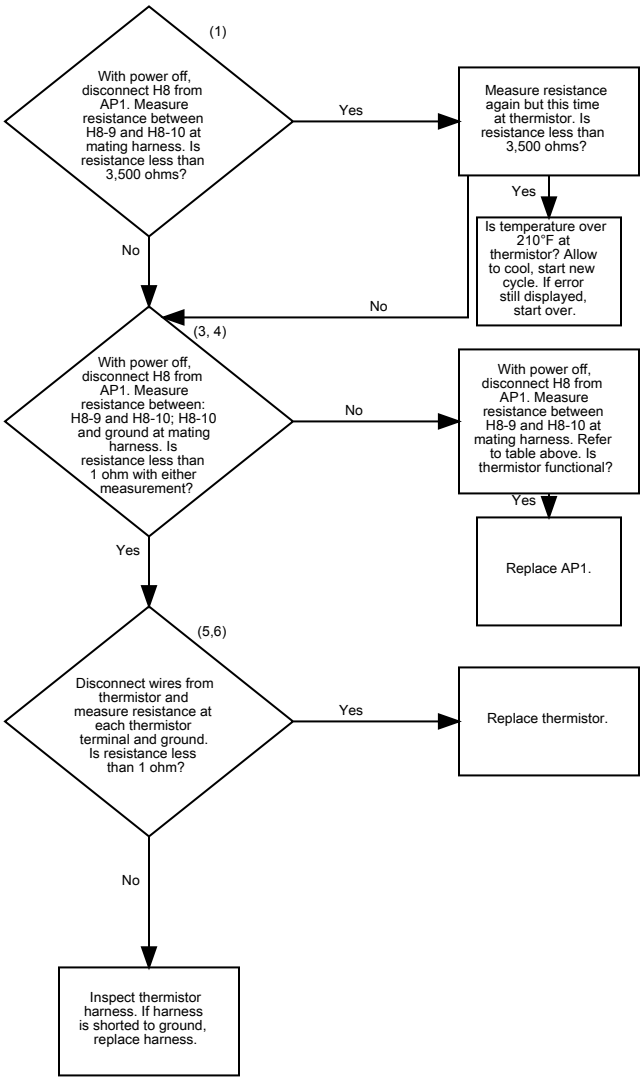


Open Thermistor

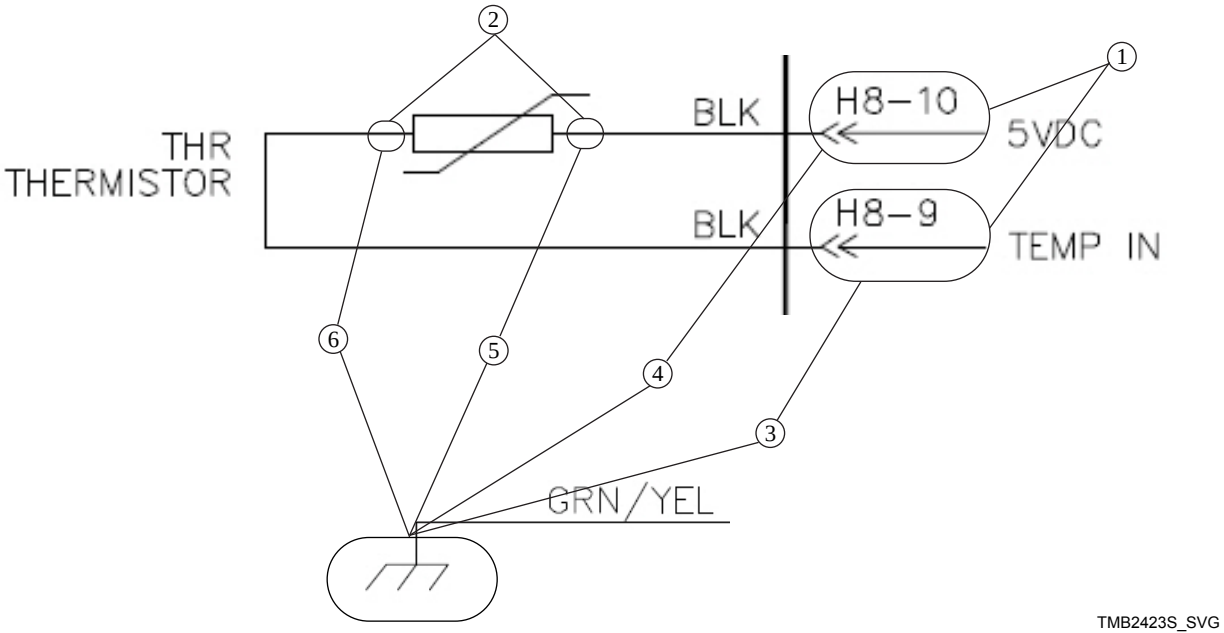


Shorted Thermistor "E SH"

At 68°F [20°C], resistance should be 59,400 Ohms.
At 77°F [25°C], resistance should be 50,000 Ohms.
At 86°F [30°C], resistance should be 40,285 Ohms.
At 95°F [35°C], resistance should be 32,660 Ohms.
Resistance should decrease as the temperature increases.

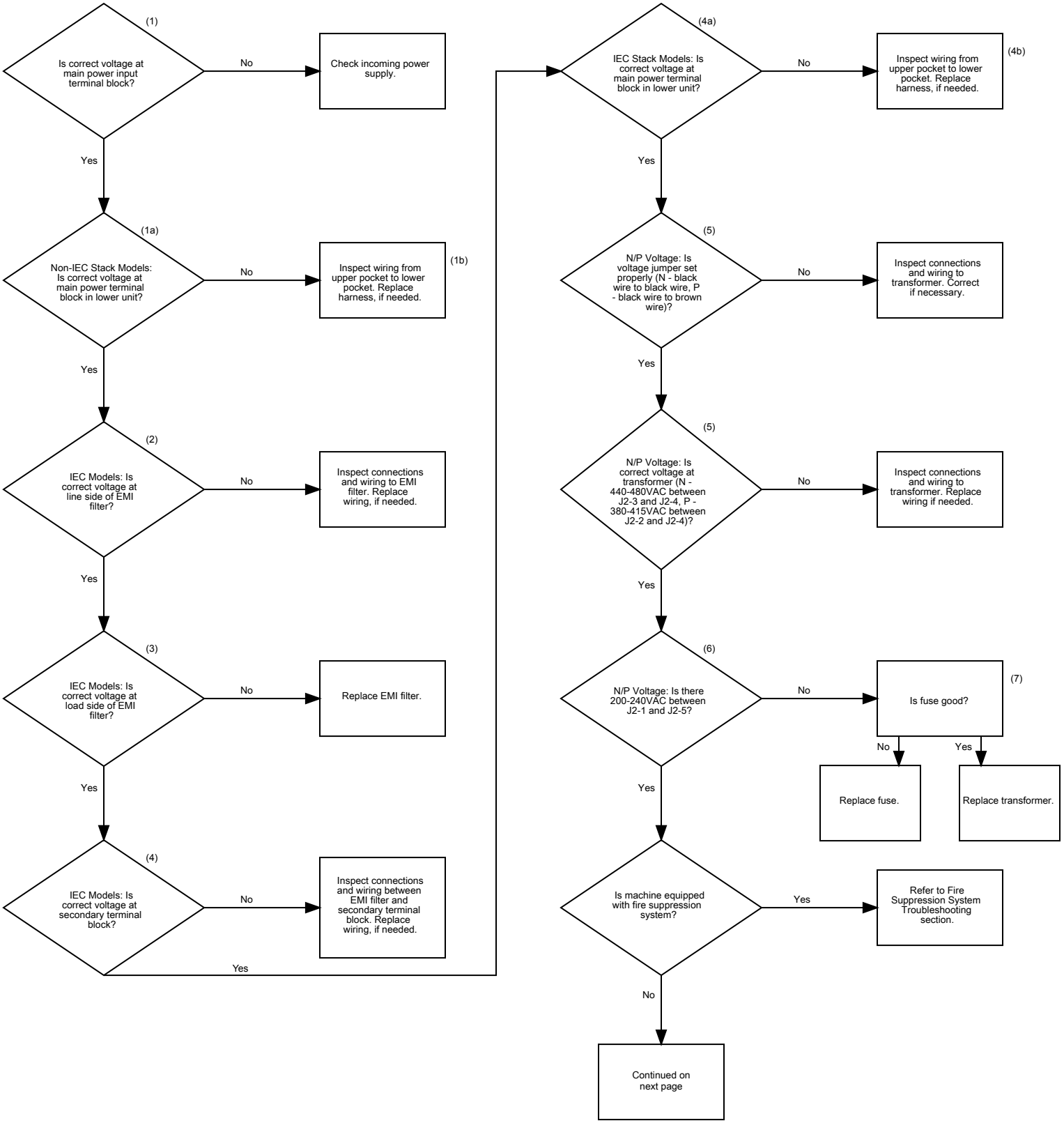


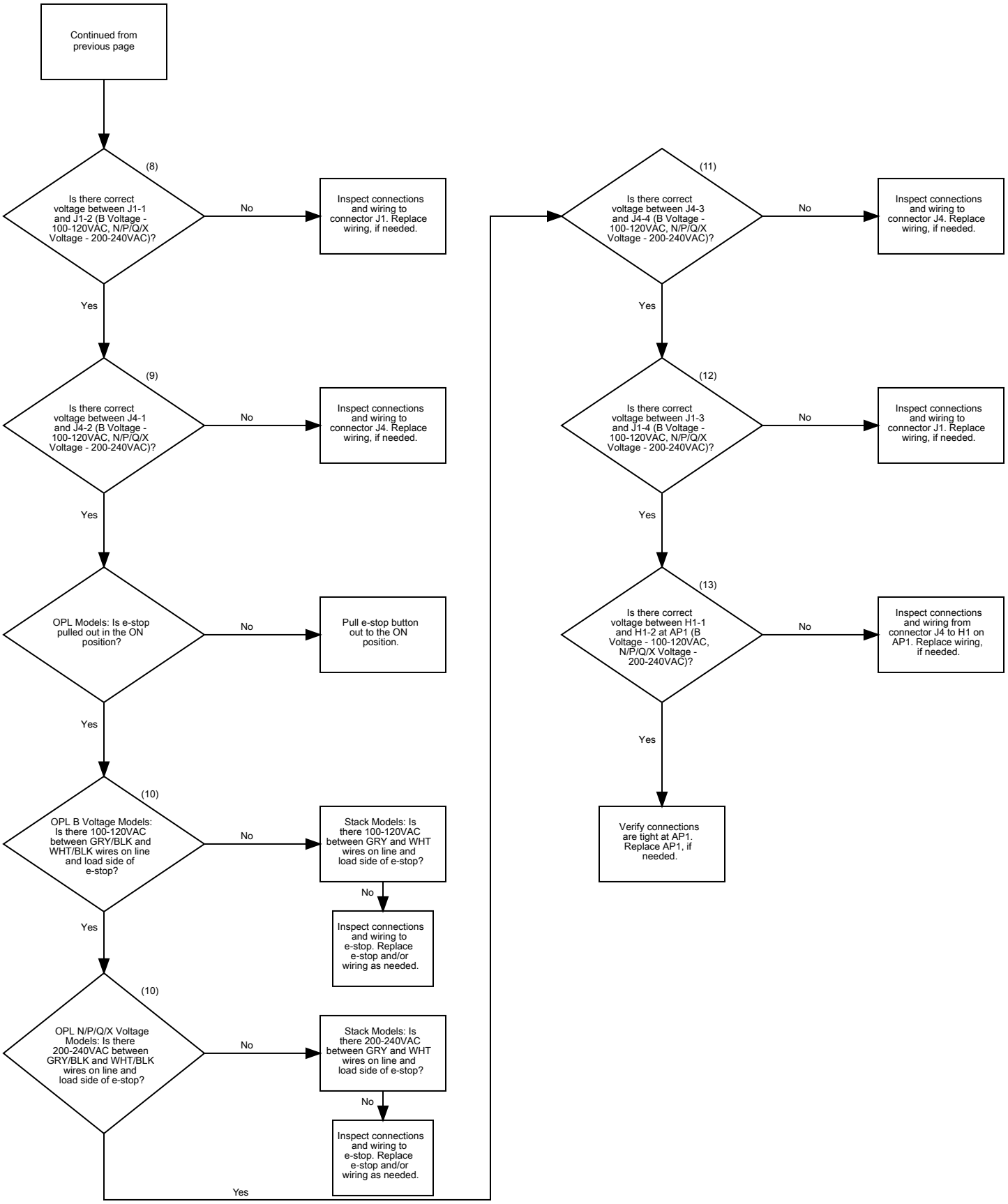
Shorted Thermistor



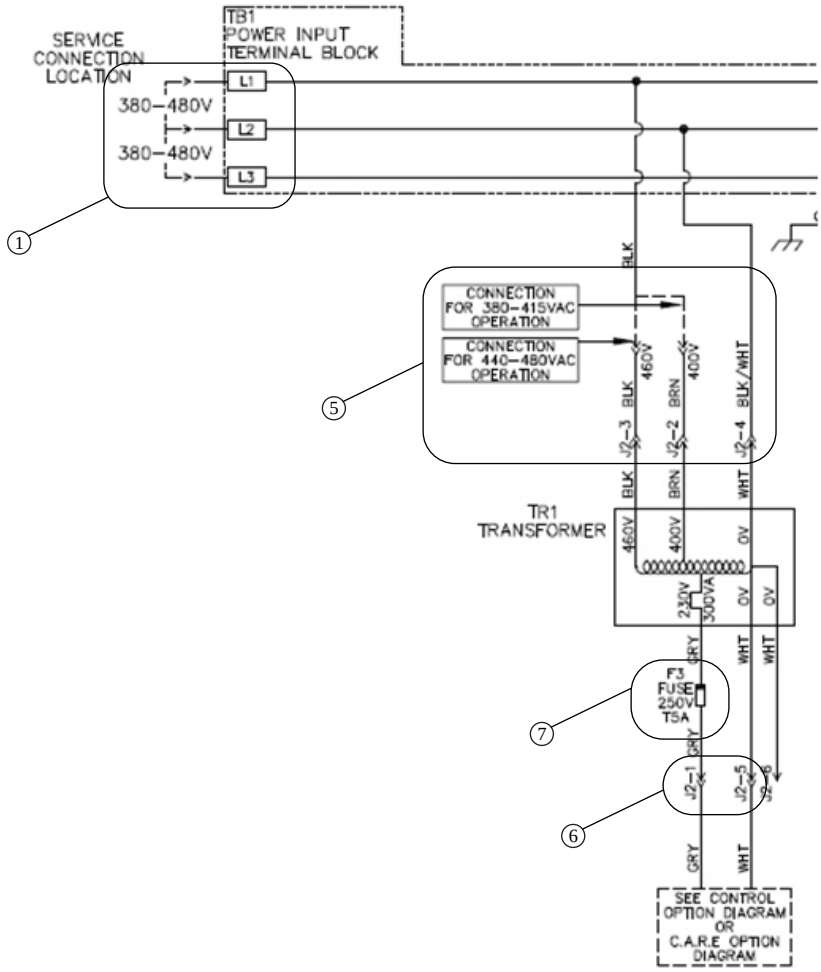
No Power to I/O Control Assembly - Gas and Steam Models

NOTE: Skip any steps that do not pertain to your machine.

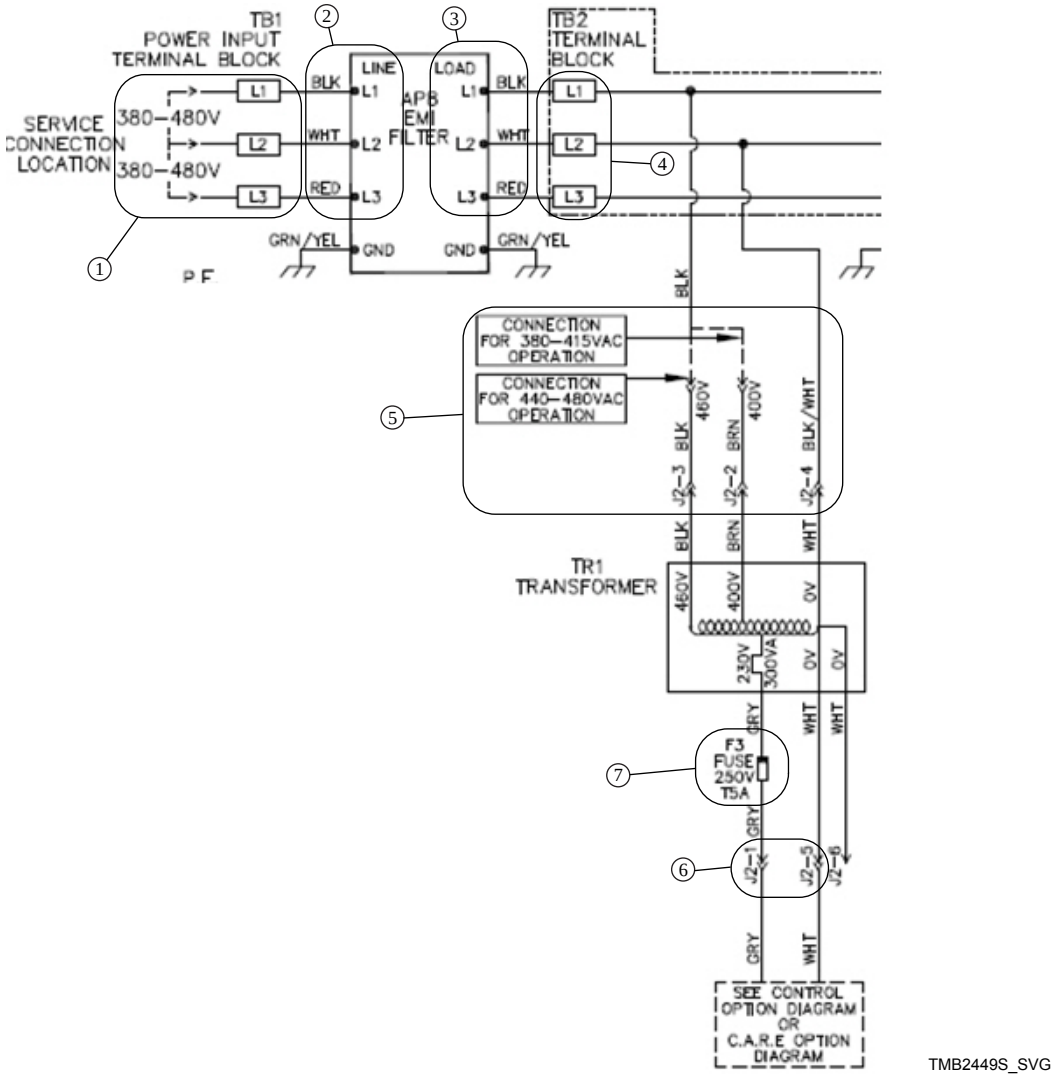




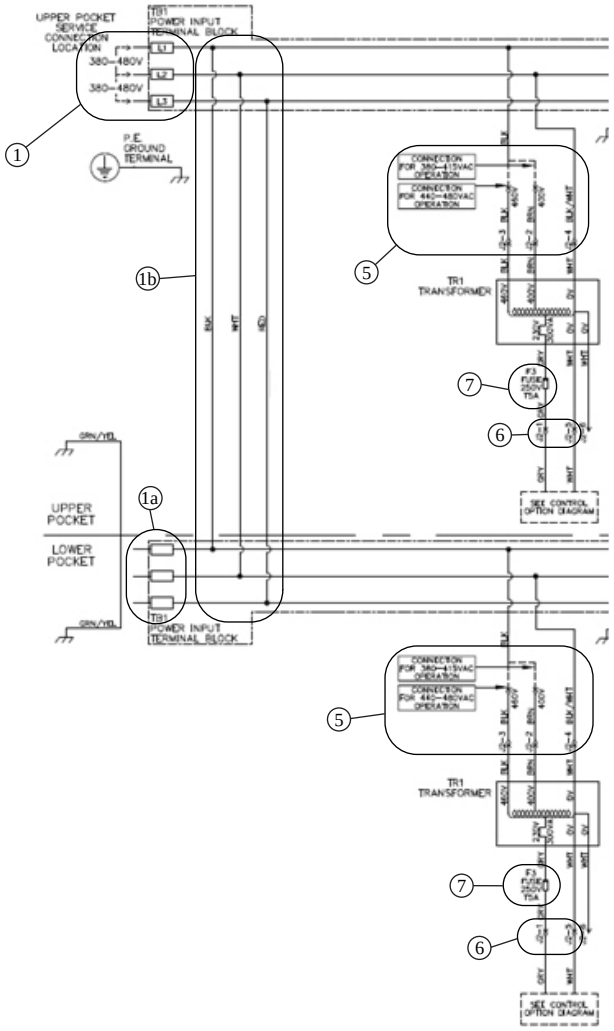
25-200 Pound Single CSA Models, N/P Voltage



25-200 Pound Single IEC Models, N/P Voltage

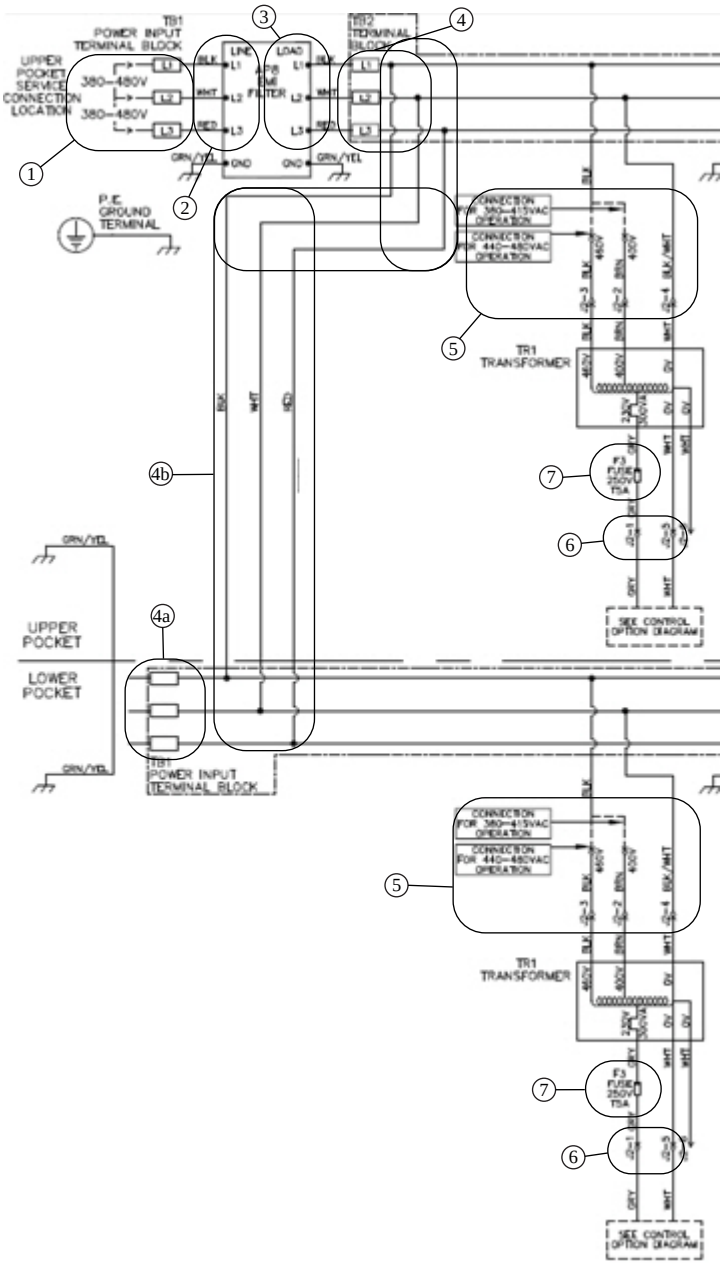


Stack CSA Models, N/P Voltage



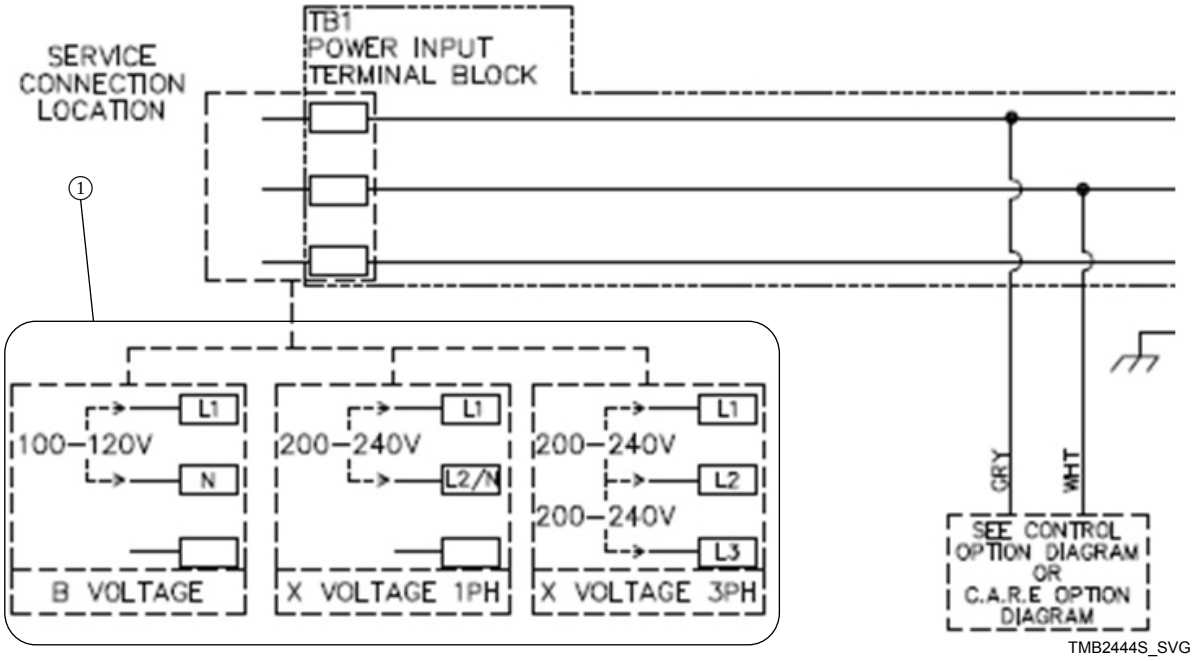
TMB2451S_SVG

Stack IEC Models, N/P Voltage



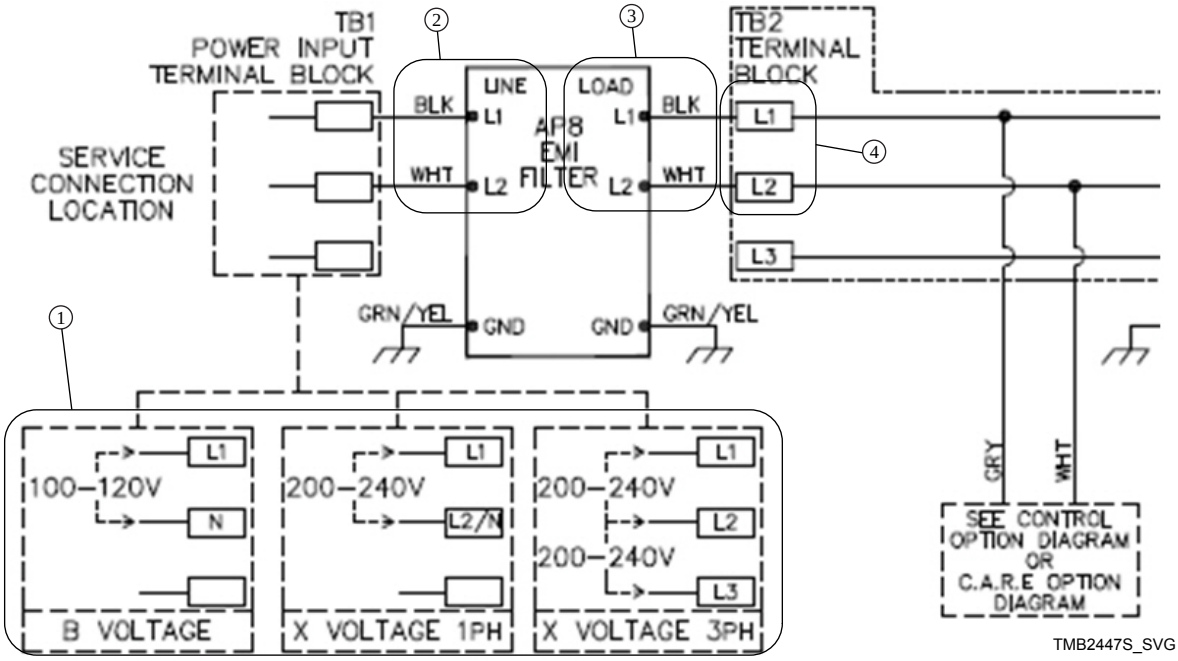
TMB2453S_SVG

25-75 Pound Single CSA Models, B/X Voltage



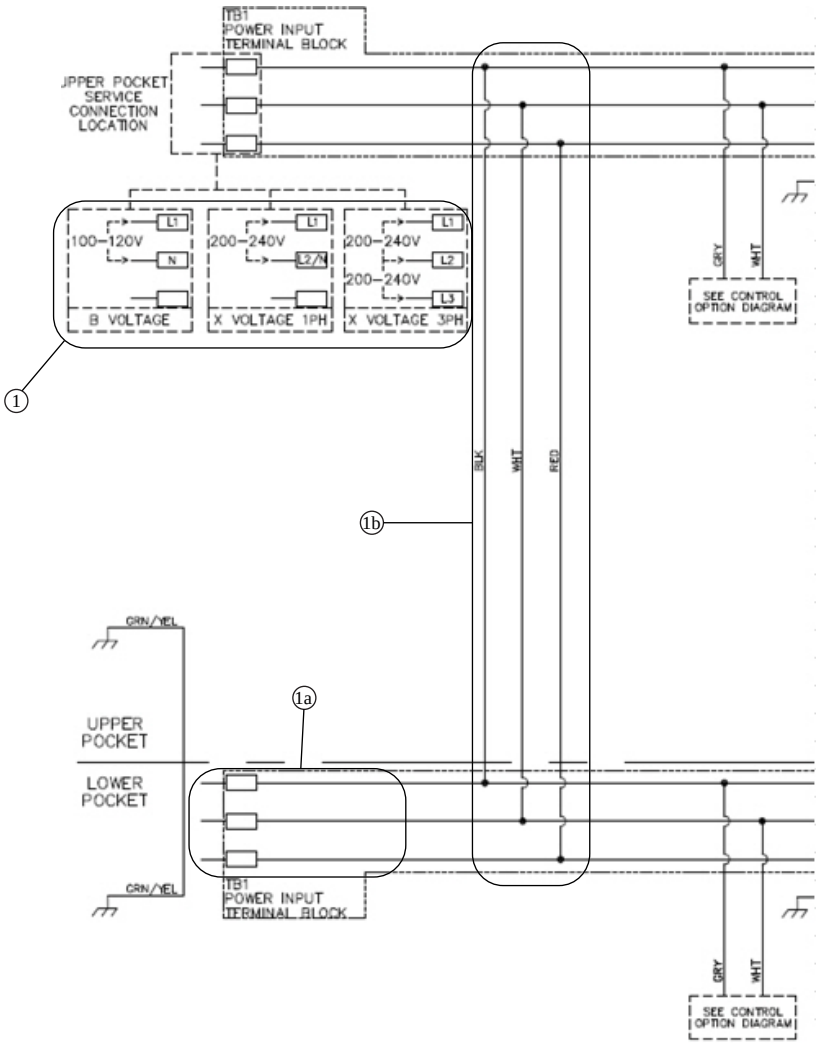
TMB2444S_SVG

25-75 Pound Single IEC Models, B/X Voltage

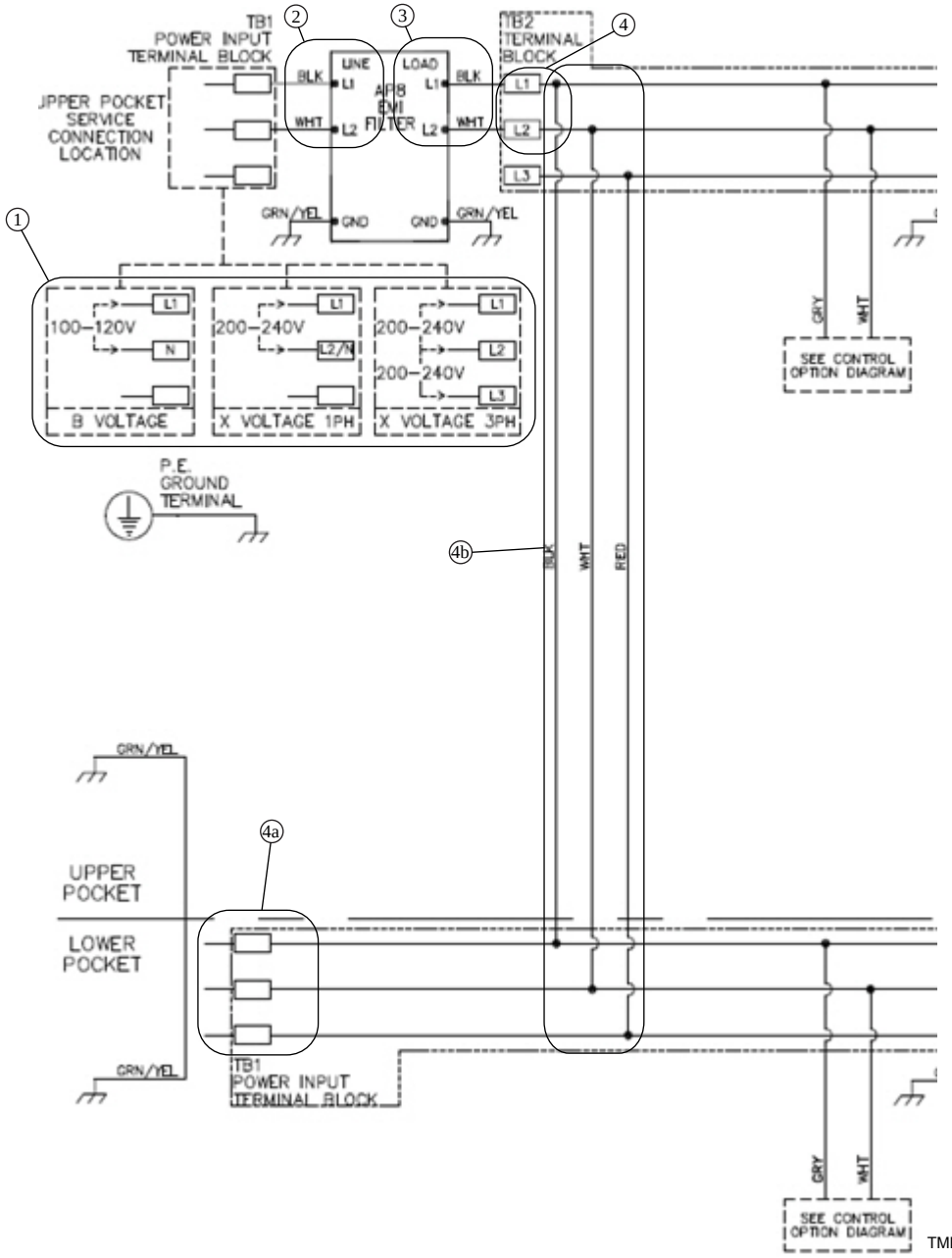


TMB2447S_SVG

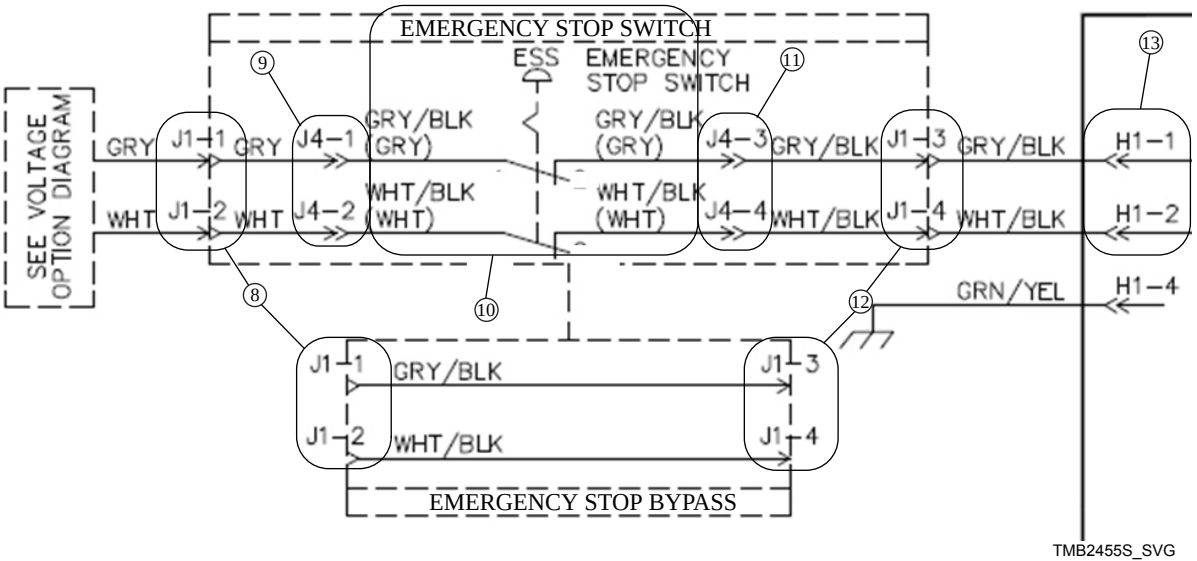
Stack CSA Models, B/X Voltage



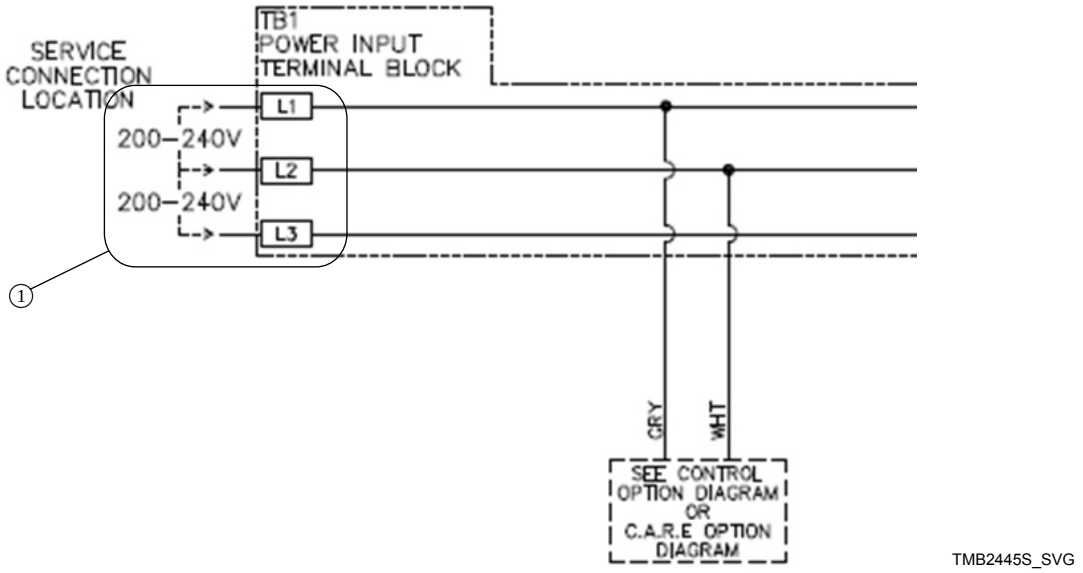
Stack IEC Models, B/X Voltage



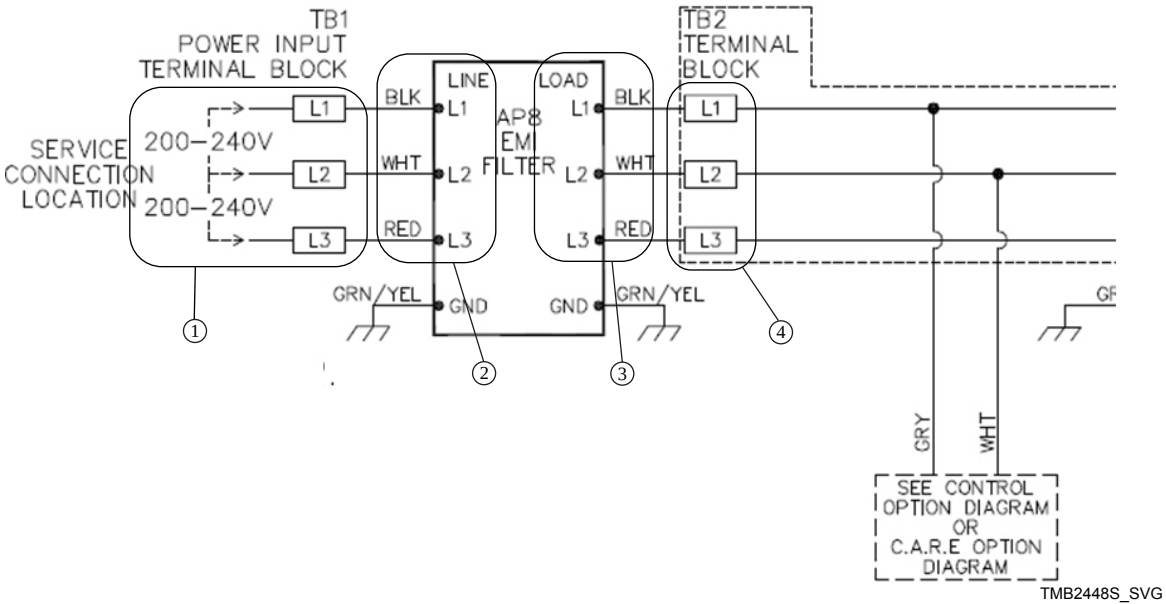
Stack Models



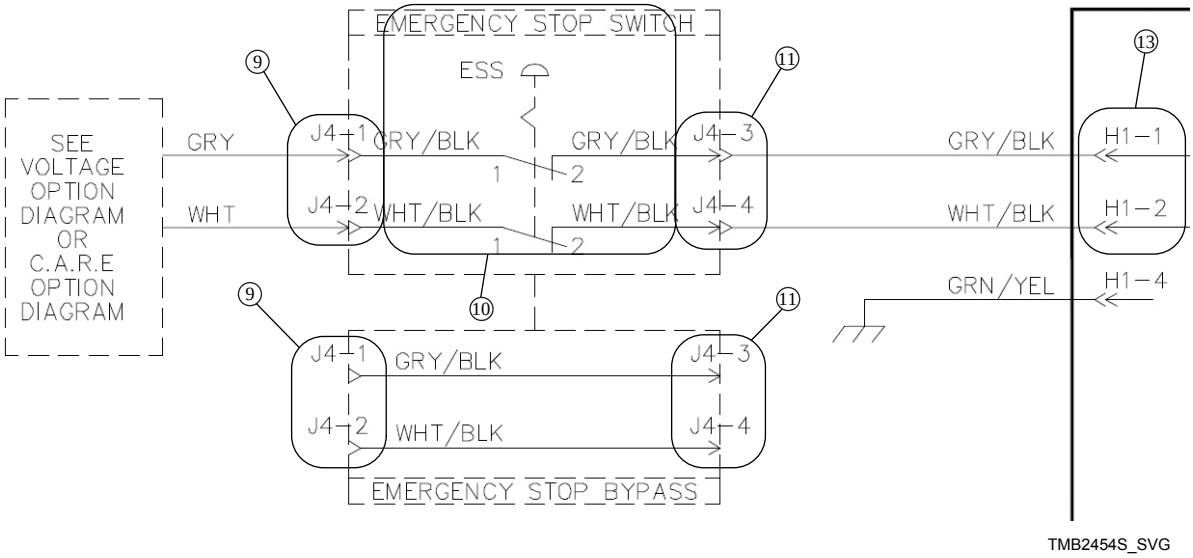
F75-200 CSA Models, Q Voltage



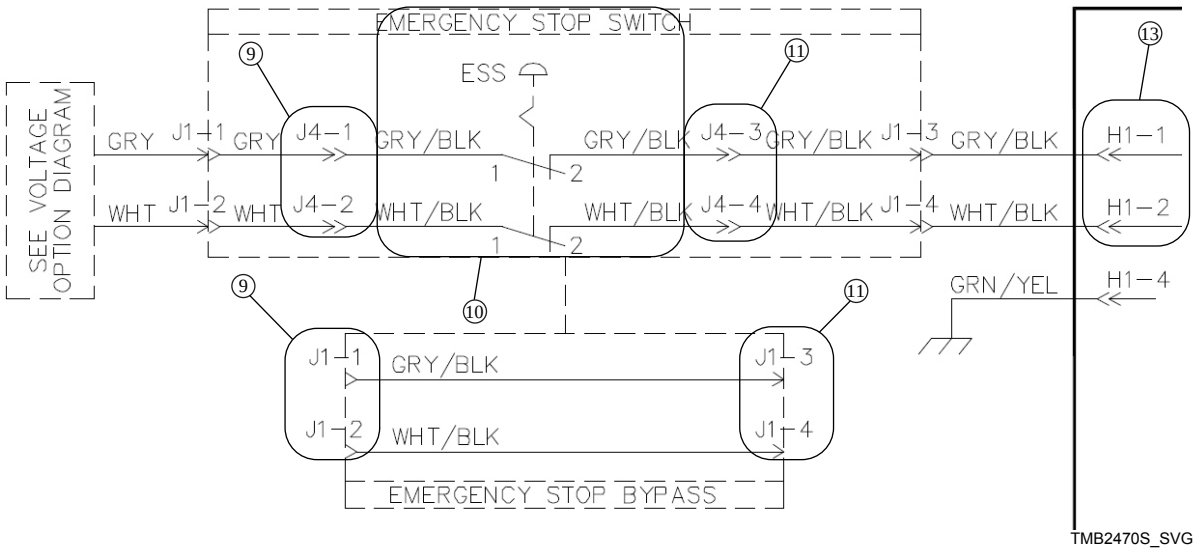
120-200 IEC Models, Q Voltage



25-55 Single Models

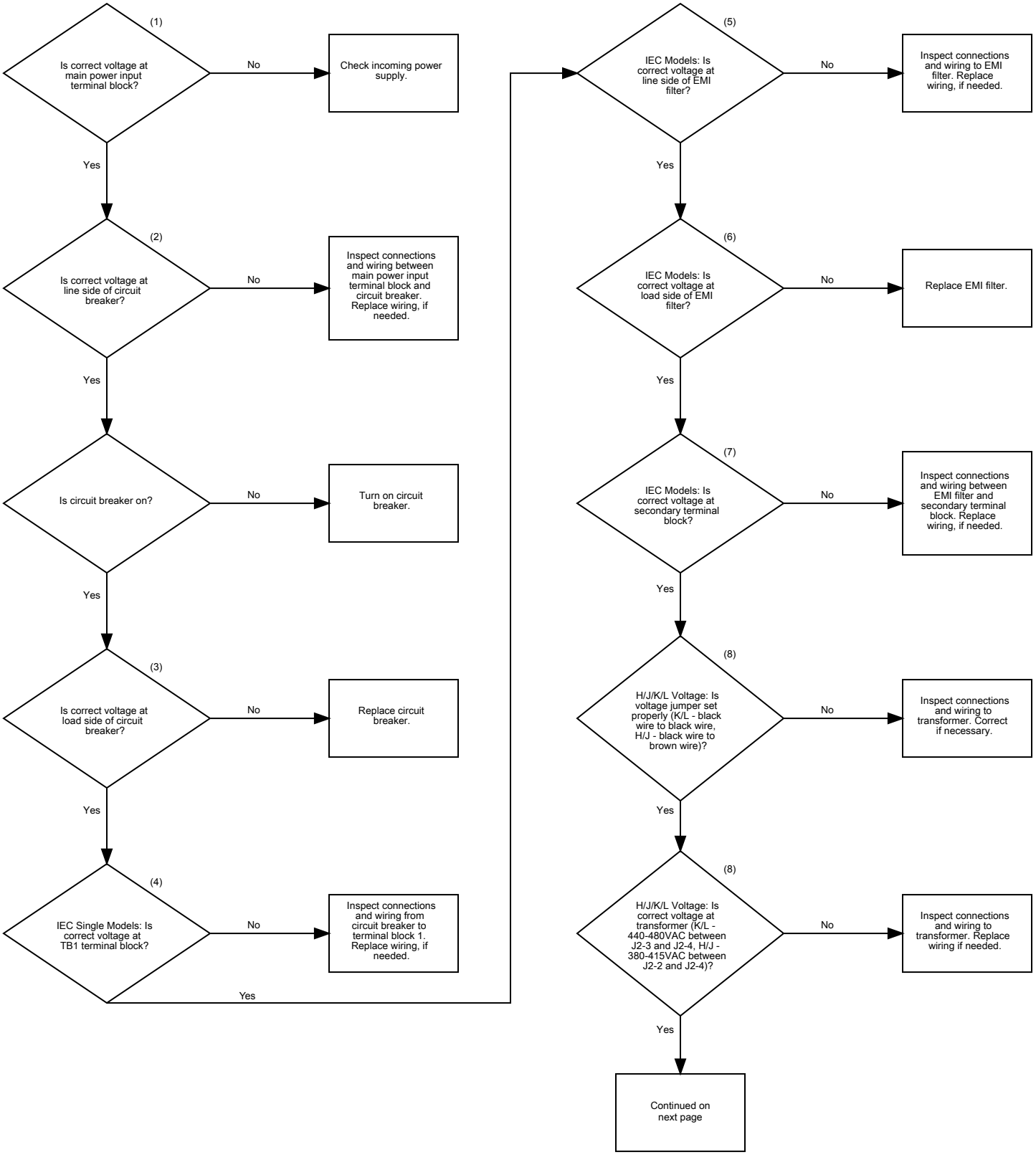


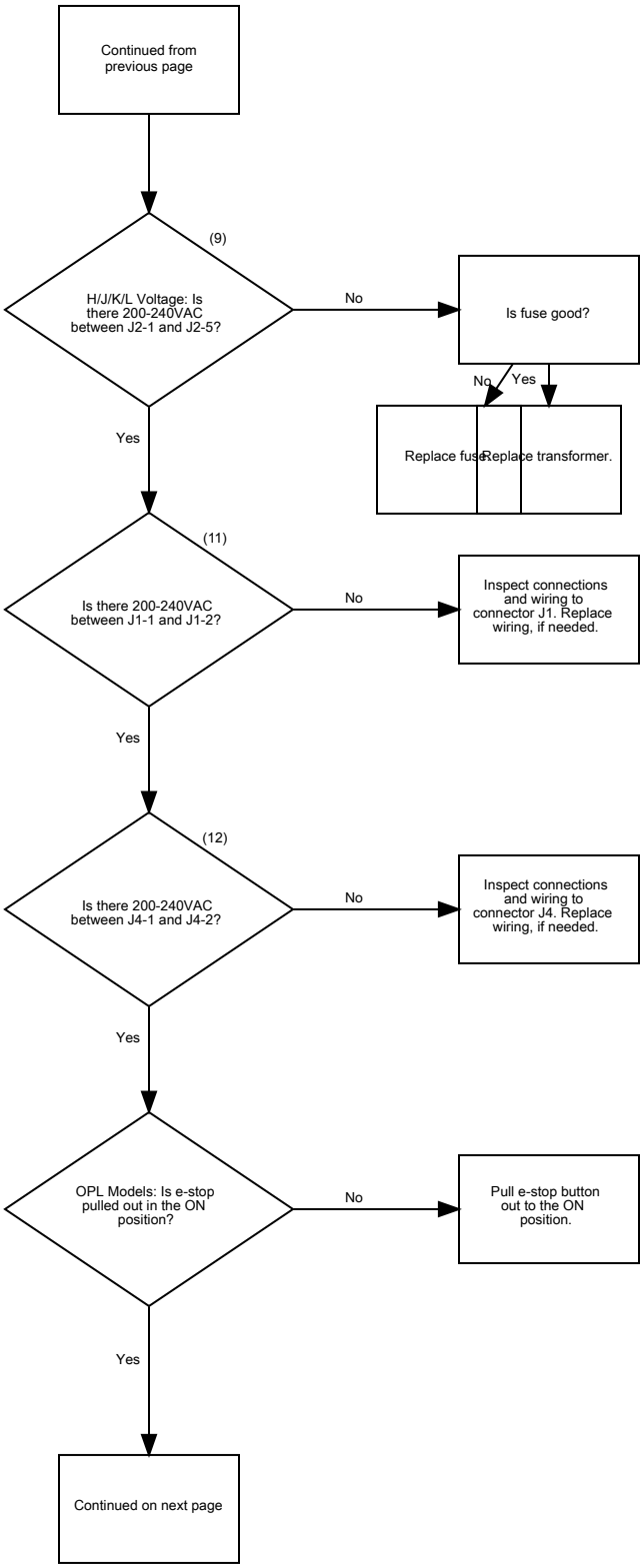
50-200 Single Models

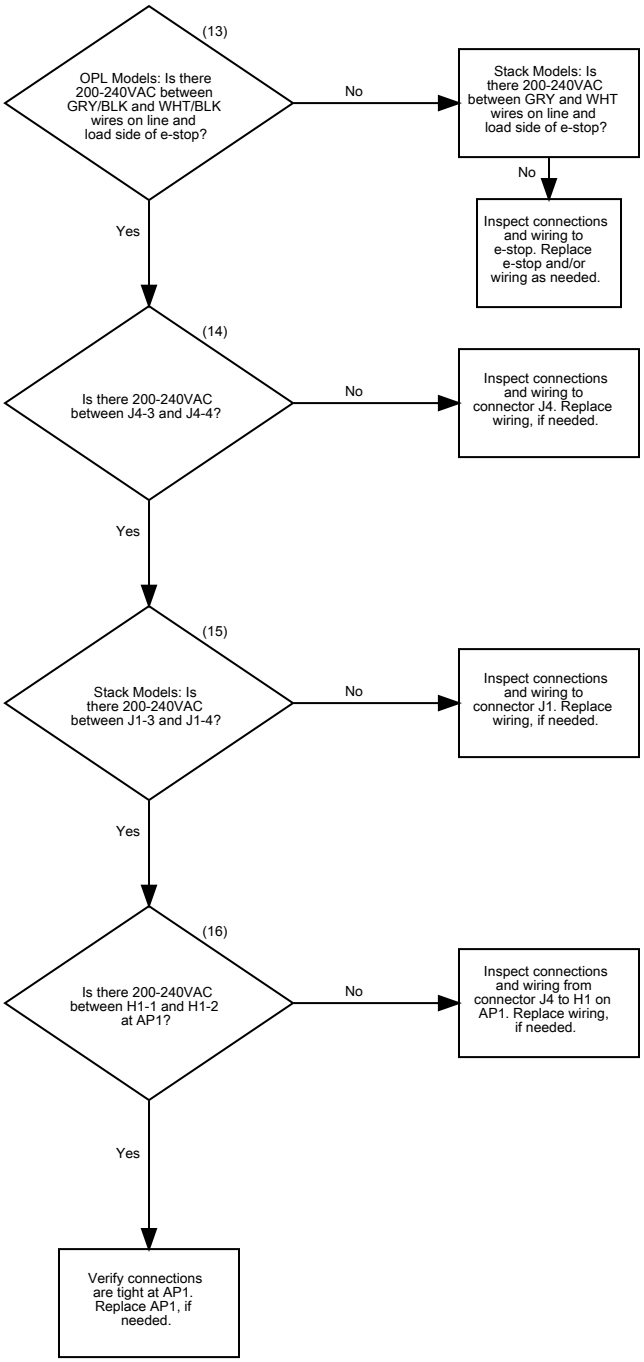


No Power to I/O Control Assembly - Electric Models

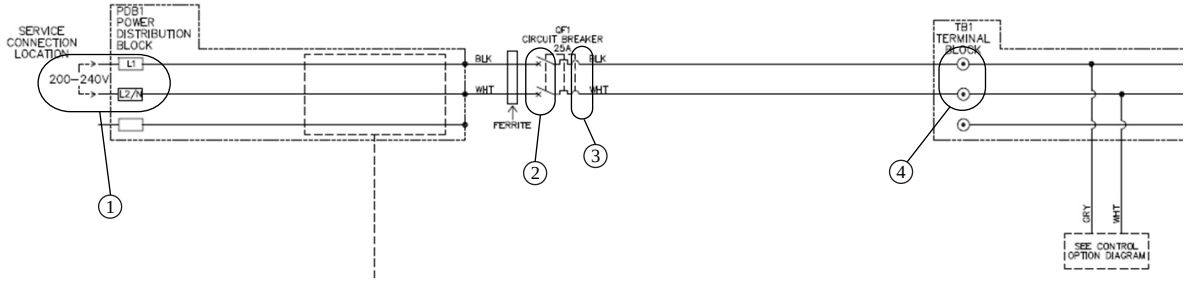
NOTE: Skip any steps that do not pertain to your machine.





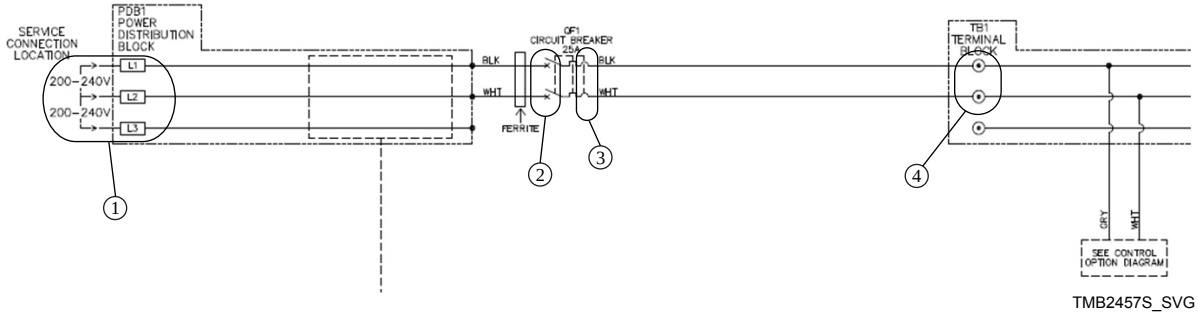


25-55 Pound Single CSA Models, D/E/F/G Voltage and 50 Pound CSA Models, E Voltage



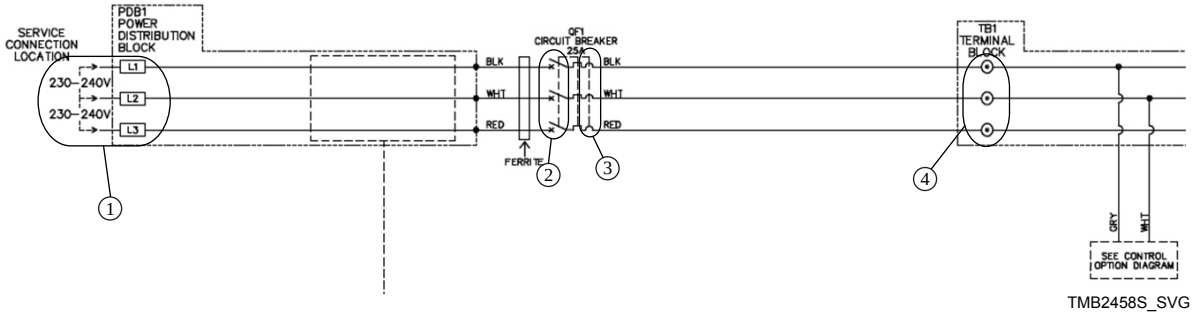
TMB2456S_SVG

50-75 Pound CSA Models, F/G Voltage



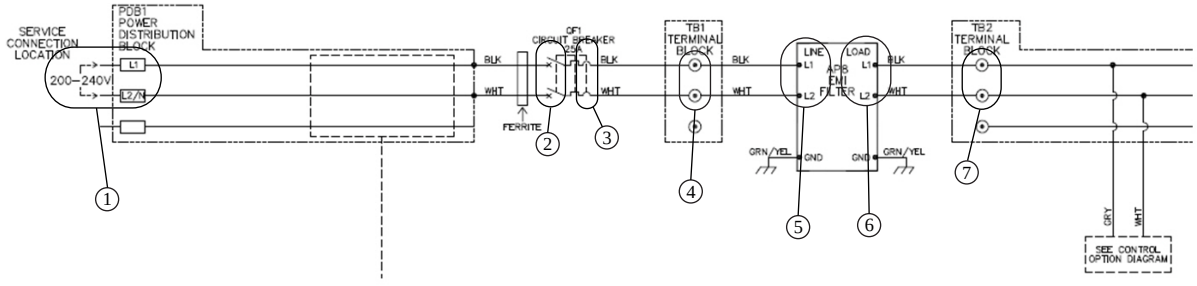
TMB2457S_SVG

120 Pound CSA Models, G Voltage



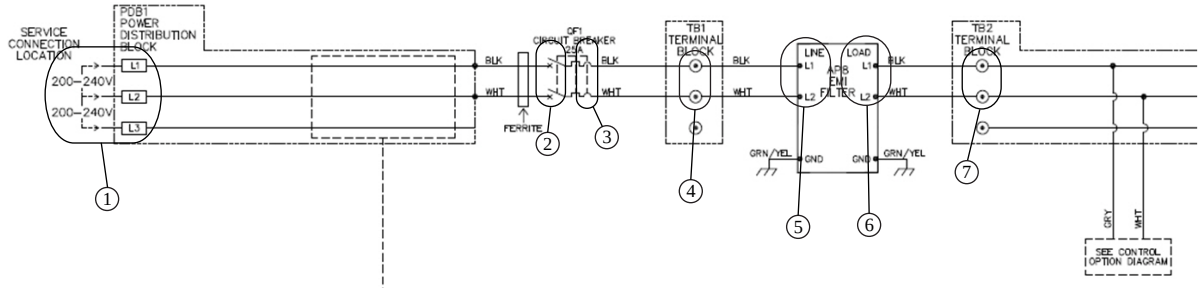
TMB2458S_SVG

25-55 Pound Single IEC Models, D/E/F/G Voltage and 50 Pound IEC Models, E Voltage



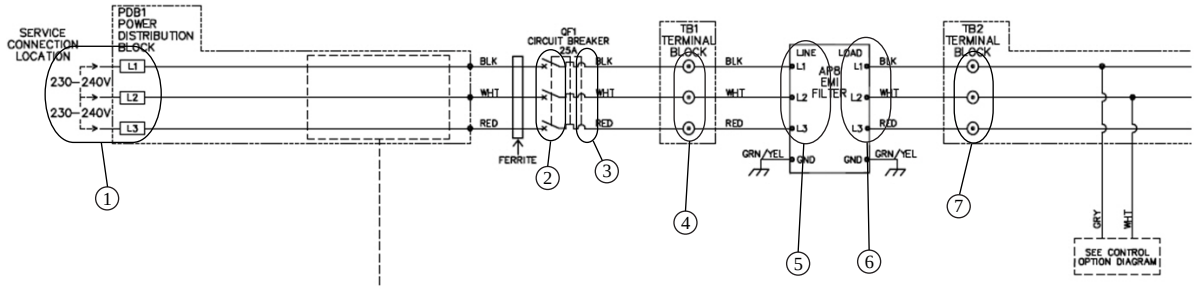
TMB2459S_SVG

50-75 Pound IEC Models, F/G Voltage



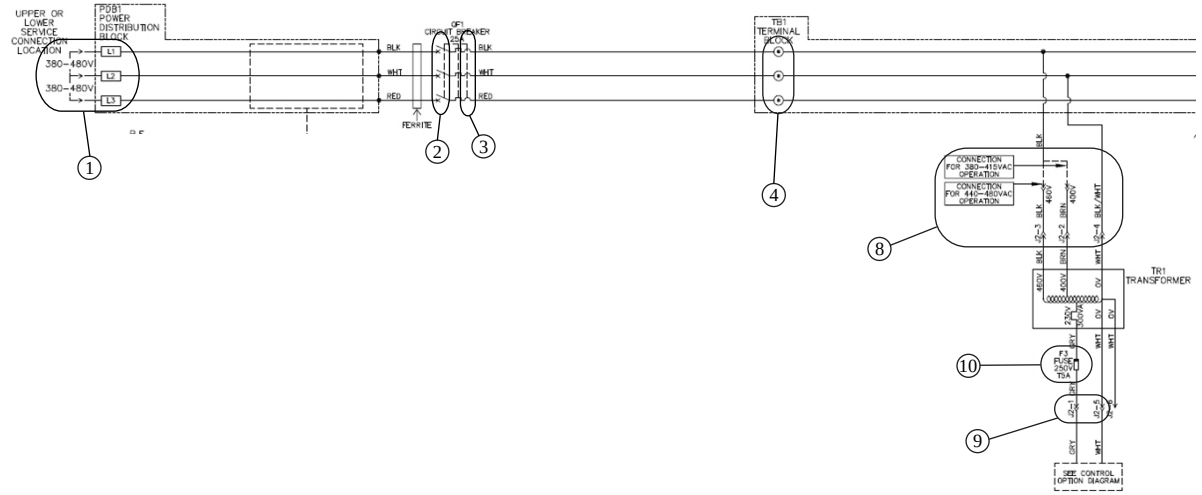
TMB2460S_SVG

120 Pound IEC Models, G Voltage



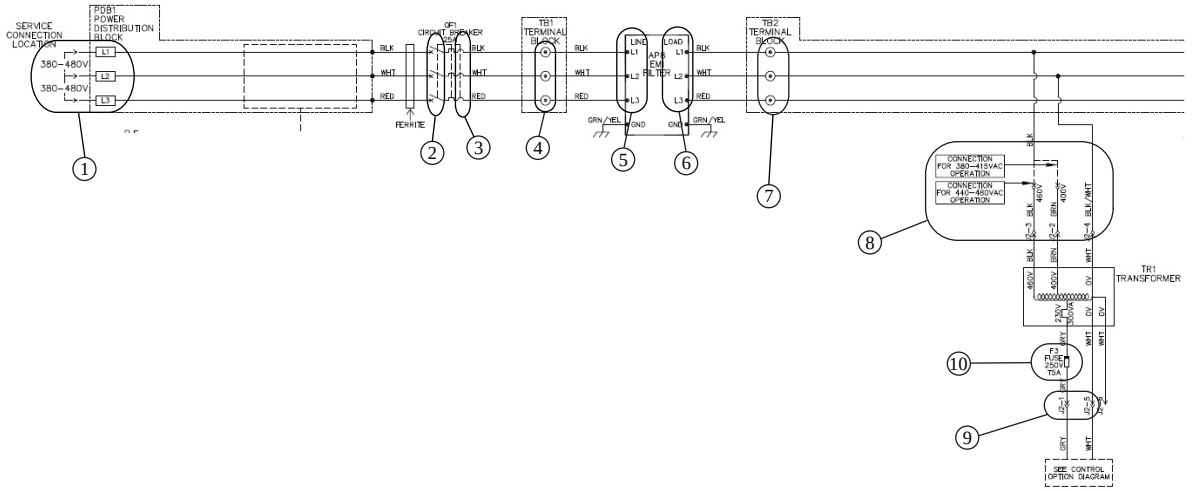
TMB2461S_SVG

25-75 Pound Single CSA Models, H/J/K/L Voltage and 120 Pound CSA Models, H/J/L Voltage



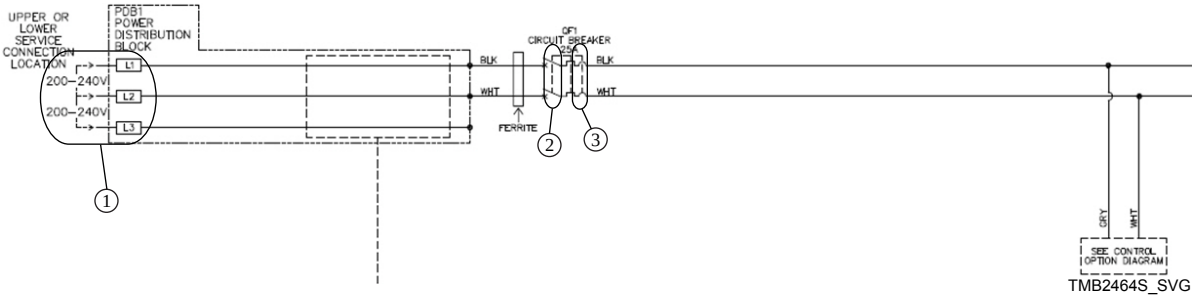
TMB2462S_SVG

All Single IEC Models, H/J/K/L Voltage



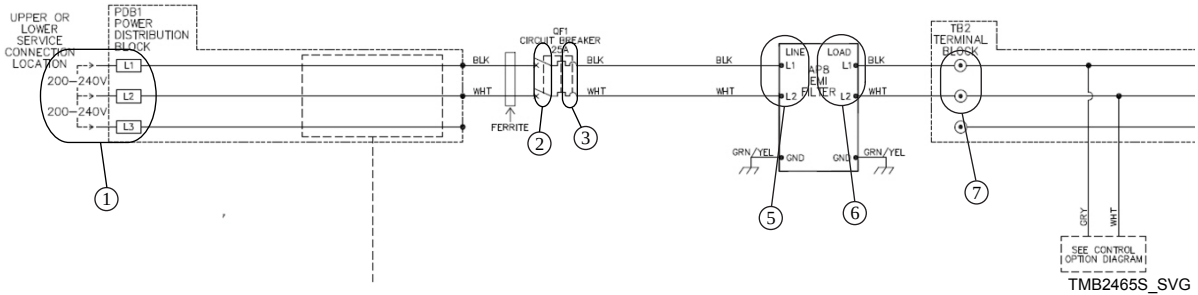
TMB2463S_SVG

T30 CSA Models, F/G Voltage



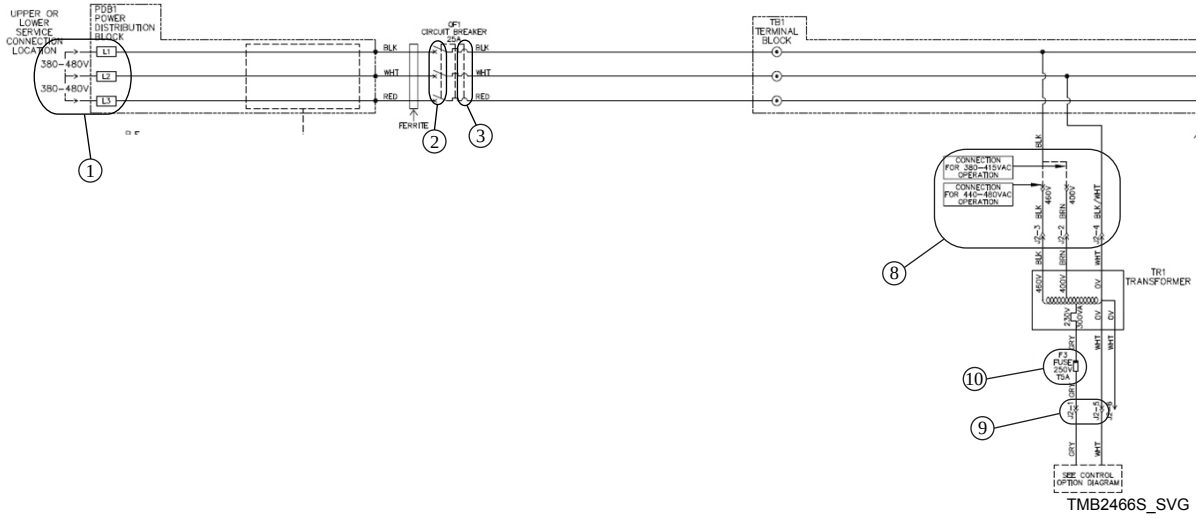
TMB2464S_SVG

T30 IEC Models, F/G Voltage



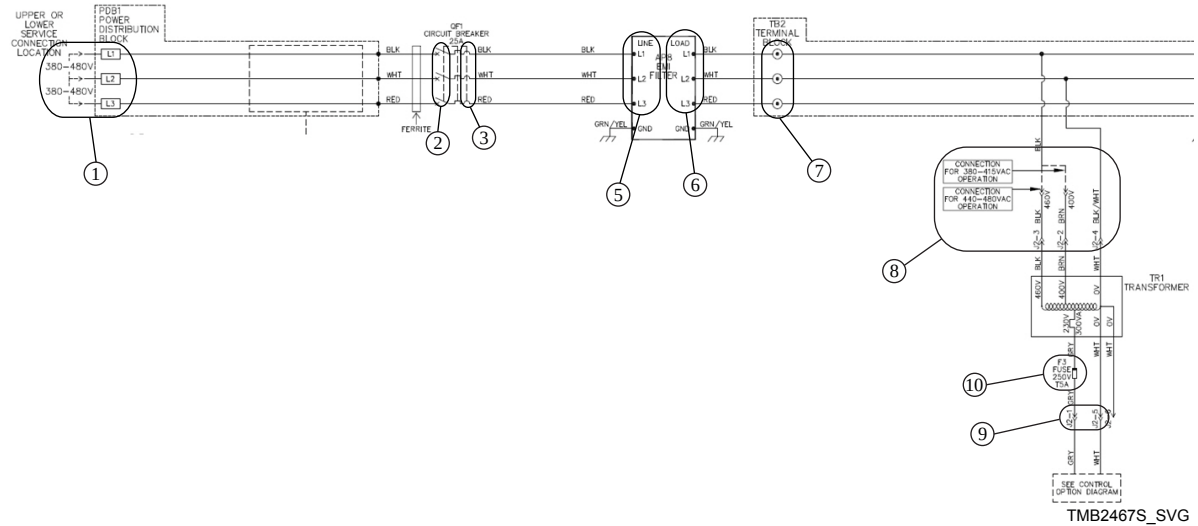
TMB2465S_SVG

T30 CSA Models, H/J/K/L Voltage



TMB2466S_SVG

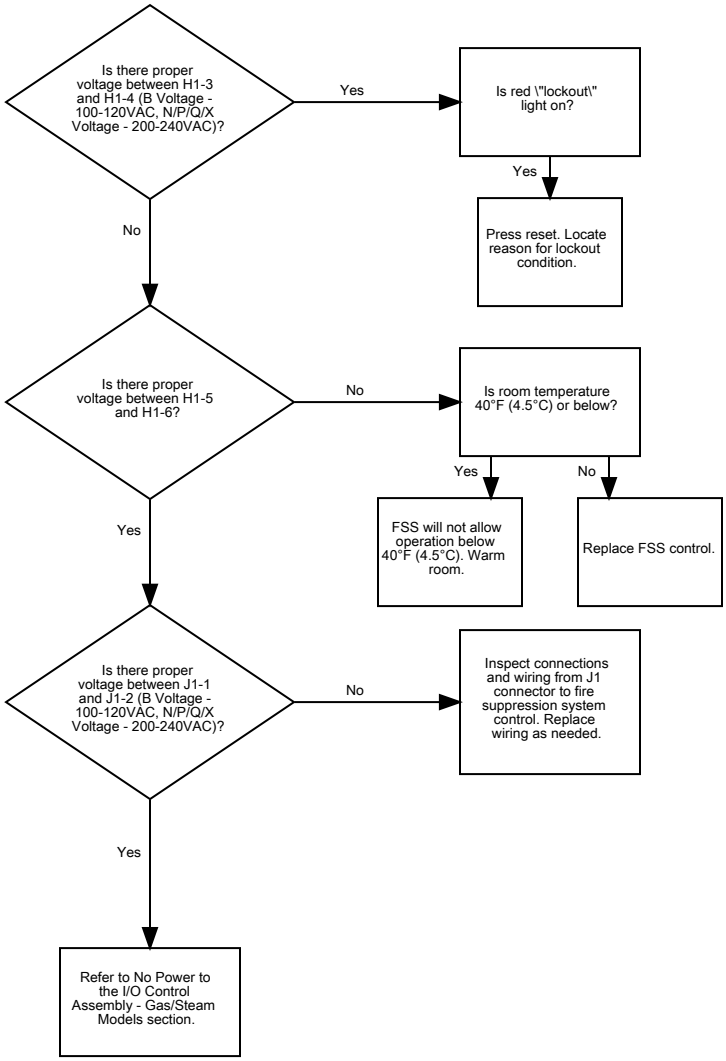
T30 IEC Models, H/J/K/L Voltage



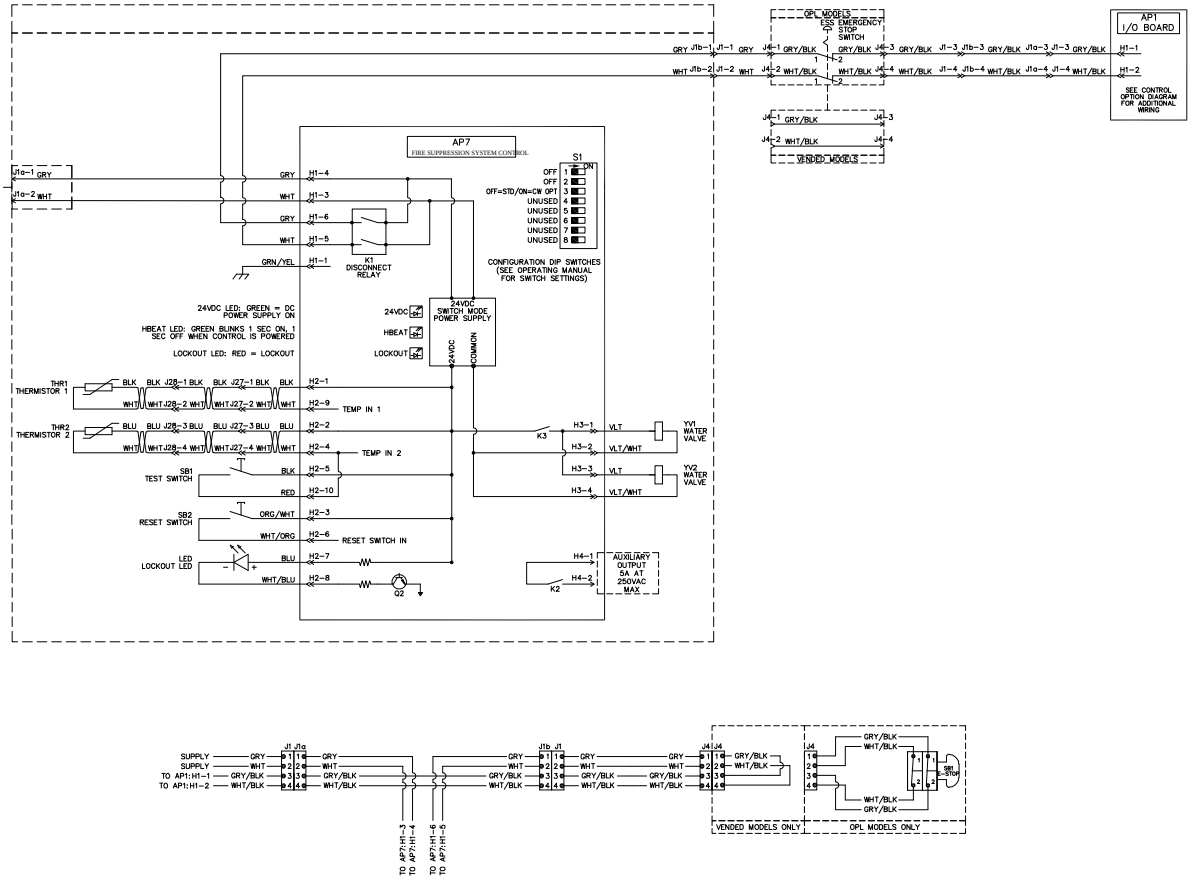
TMB2467S_SVG

Fire Suppression System (FSS) Troubleshooting

NOTE: Gas and Steam models only.

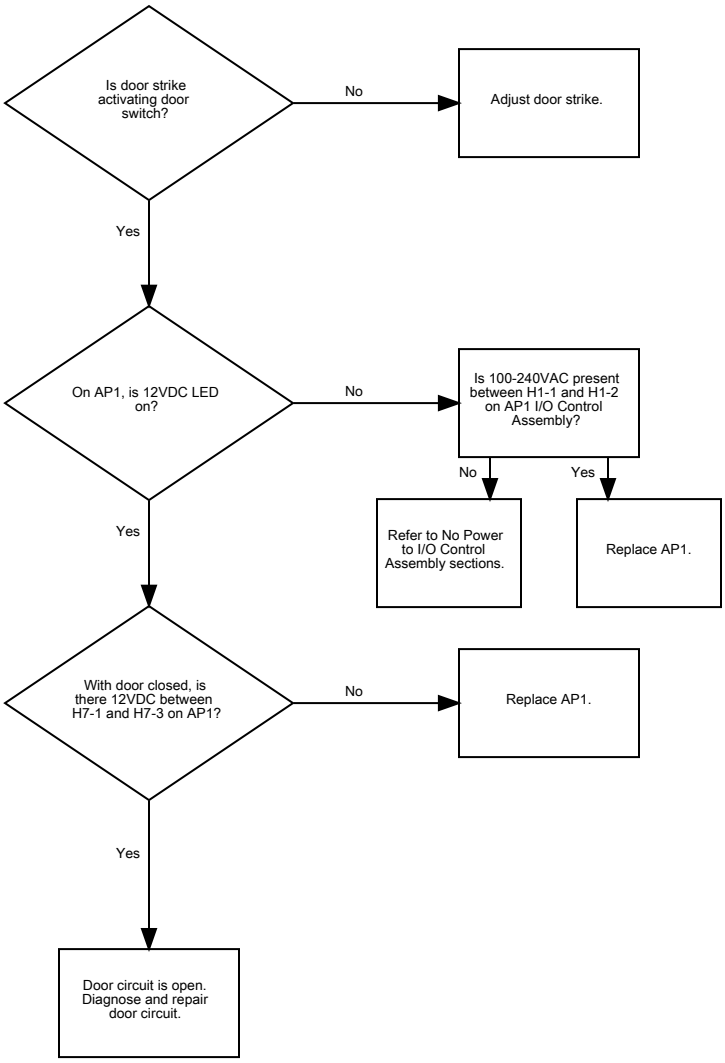


Fire Suppression System

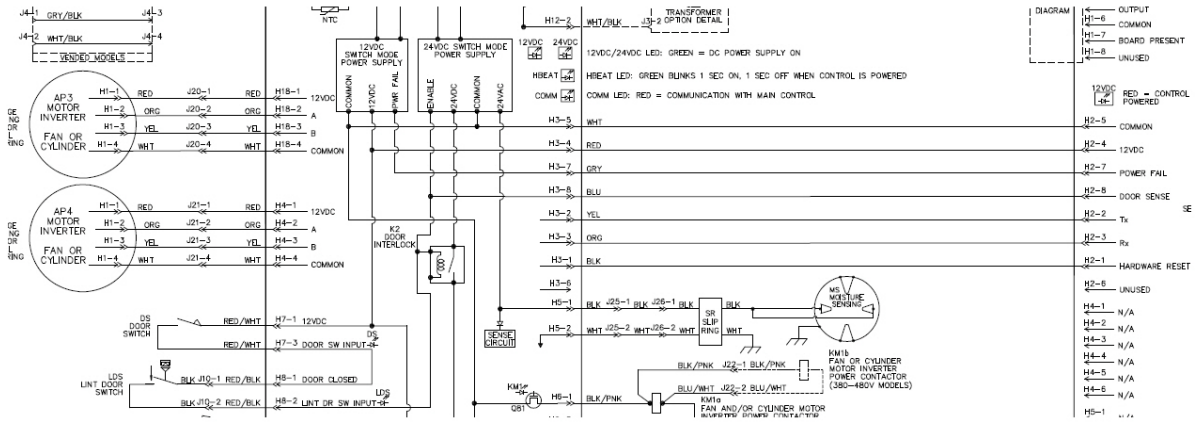


TMB2424S_SVG

Close Loading Door

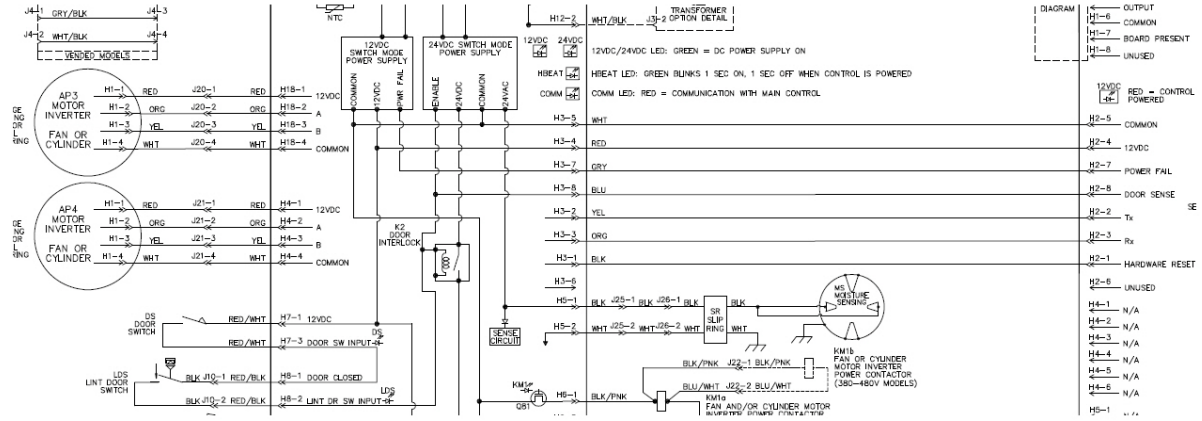


Close Loading Door - 25-55 Pound Models



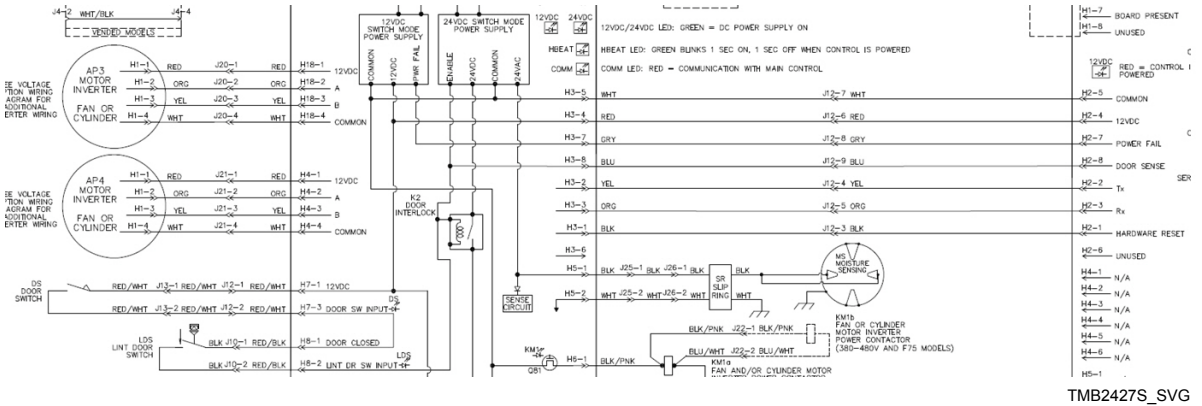
TMB2426S_SVG

Close Loading Door - T30 and T45 Pound Models



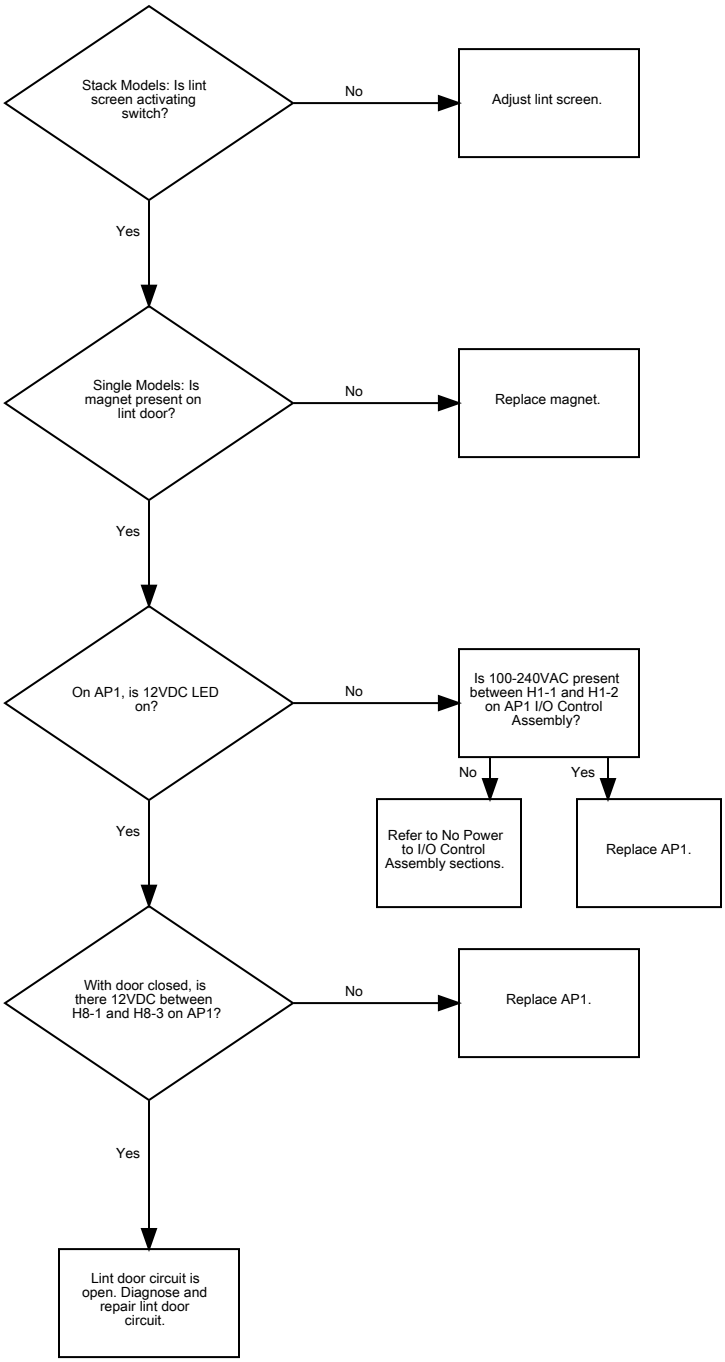
TMB2425S_SVG

Close Loading Door - 50-200 Pound Models

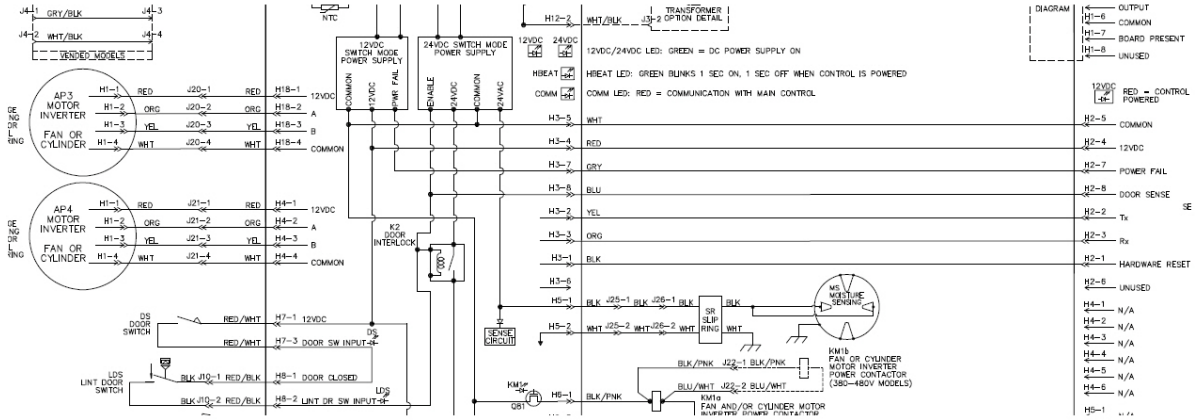


TMB2427S_SVG

Close Lint Door

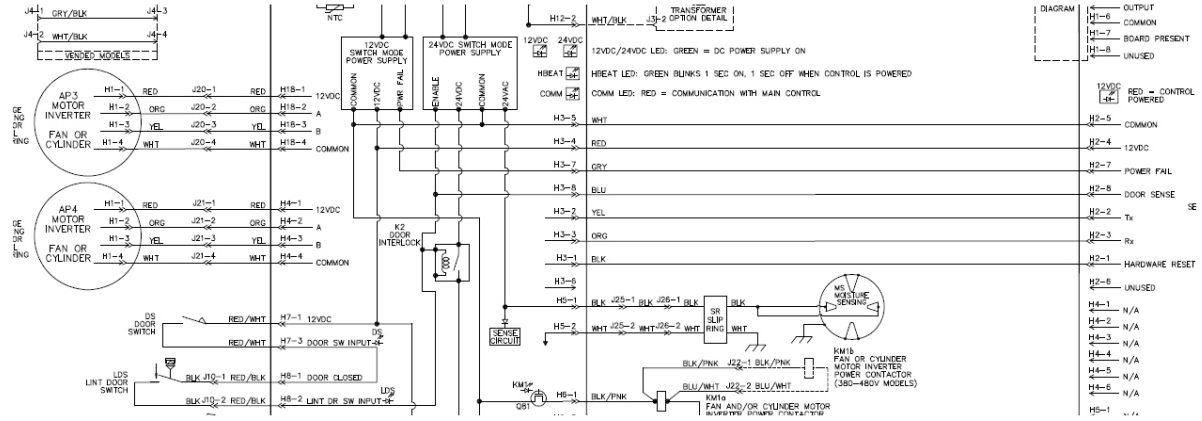


Close Lint Door - 25-55 Pound Models



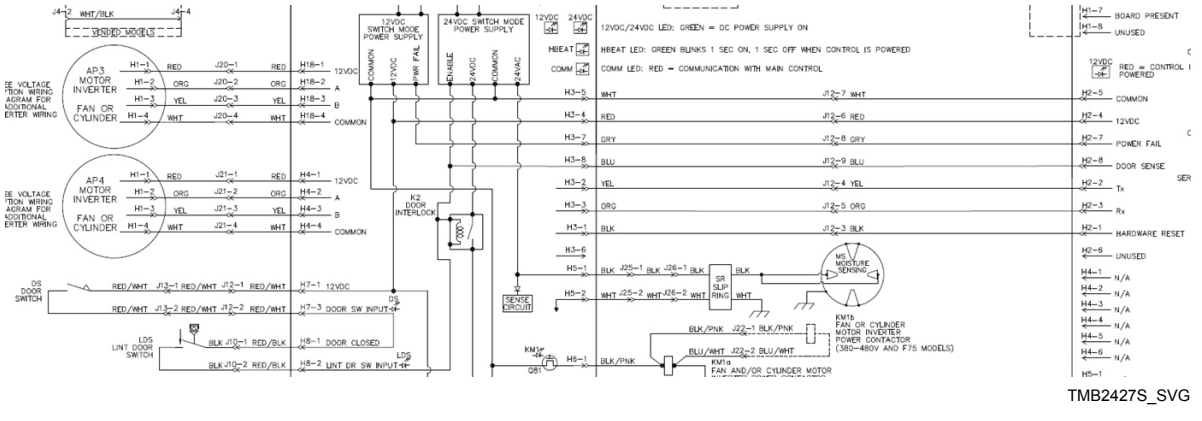
TMB2426S_SVG

Close Lint Door - T30 and T45 Pound Models



TMB2425S_SVG

Close Lint Door - 50-200 Pound Models

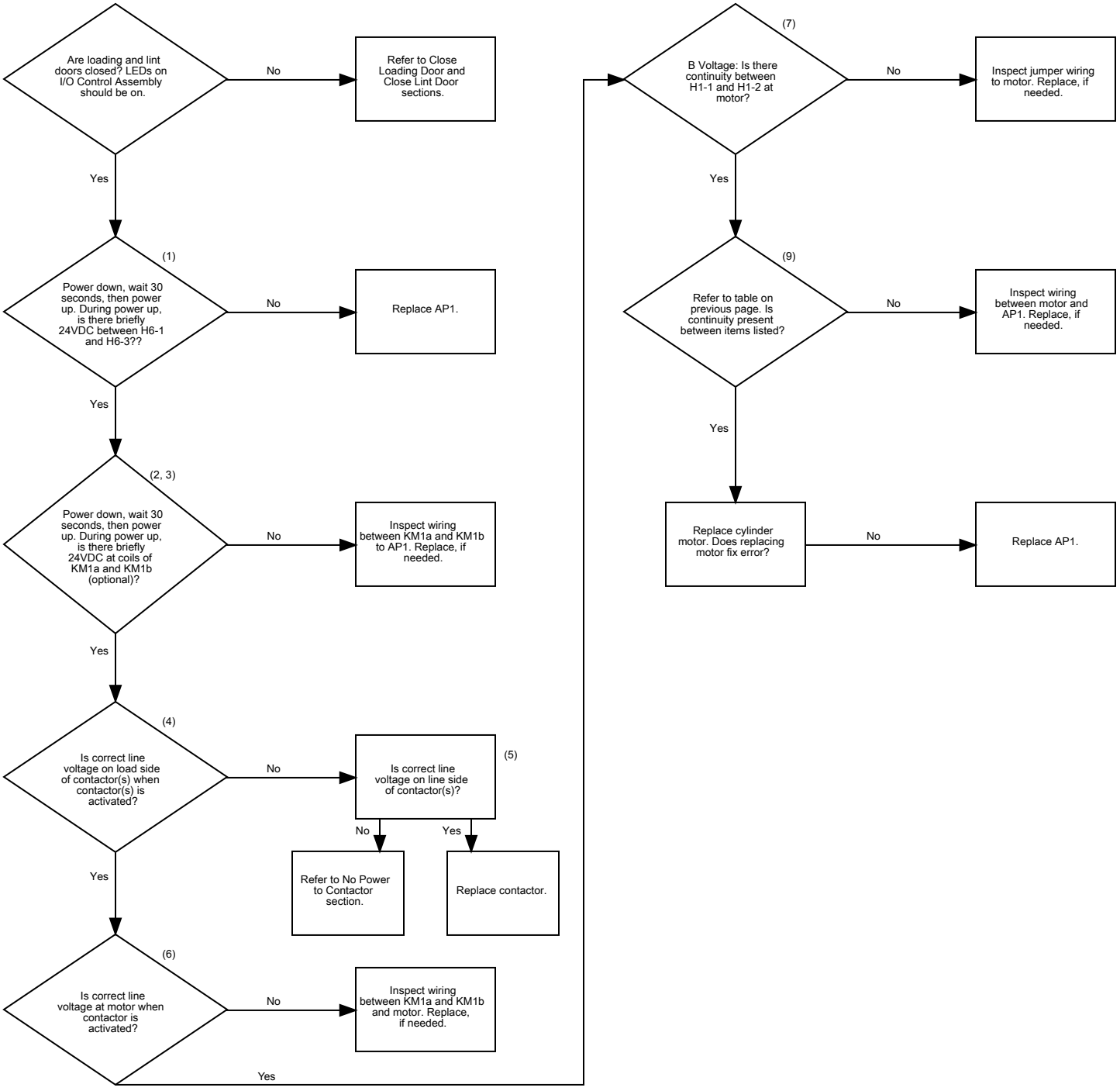


TMB2427S_SVG

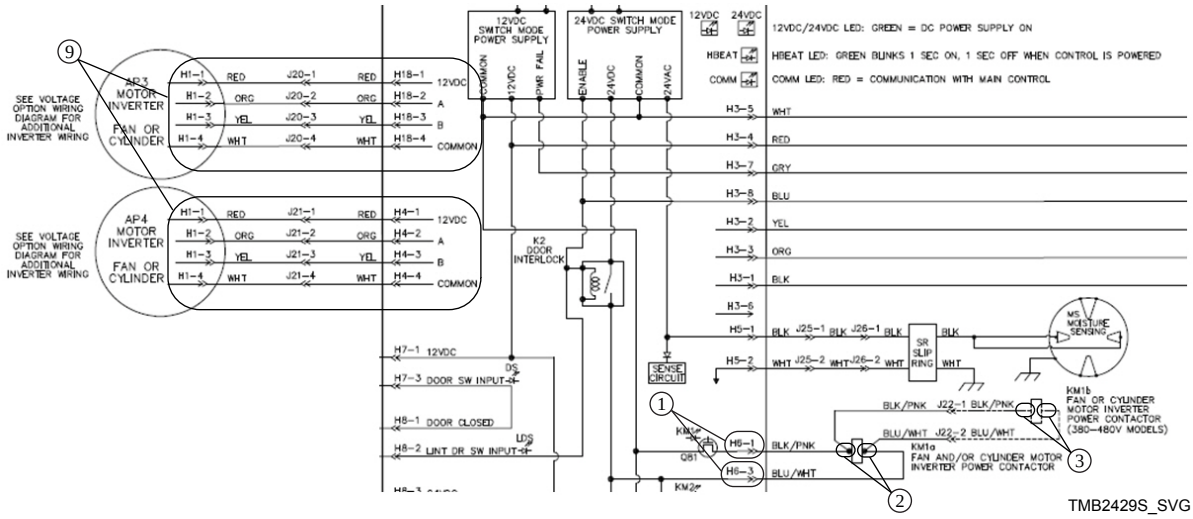
Fan and Drive Communication Error

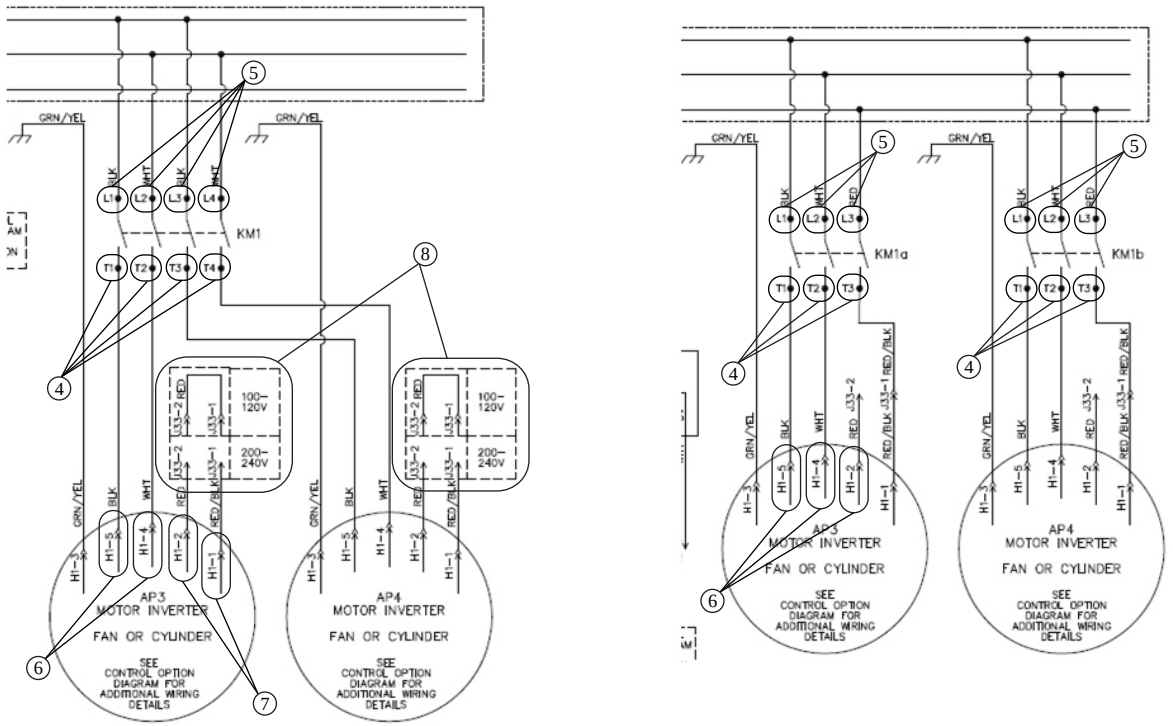
Power down machine and check for continuity between H1 on cylinder motor and H18 or H4 on AP1.		
Cylinder Motor H1-1 and H18-1	or	Cylinder Motor H1-1 and H4-1
Cylinder Motor H1-2 and H18-2		Cylinder Motor H1-2 and H4-2
Cylinder Motor H1-3 and H18-3		Cylinder Motor H1-3 and H4-3
Cylinder Motor H1-4 and H18-4		Cylinder Motor H1-4 and H4-4

NOTE: Before troubleshooting, first power down machine for 30 seconds and power back on. Is error sill displayed? If yes, proceed with troubleshooting.

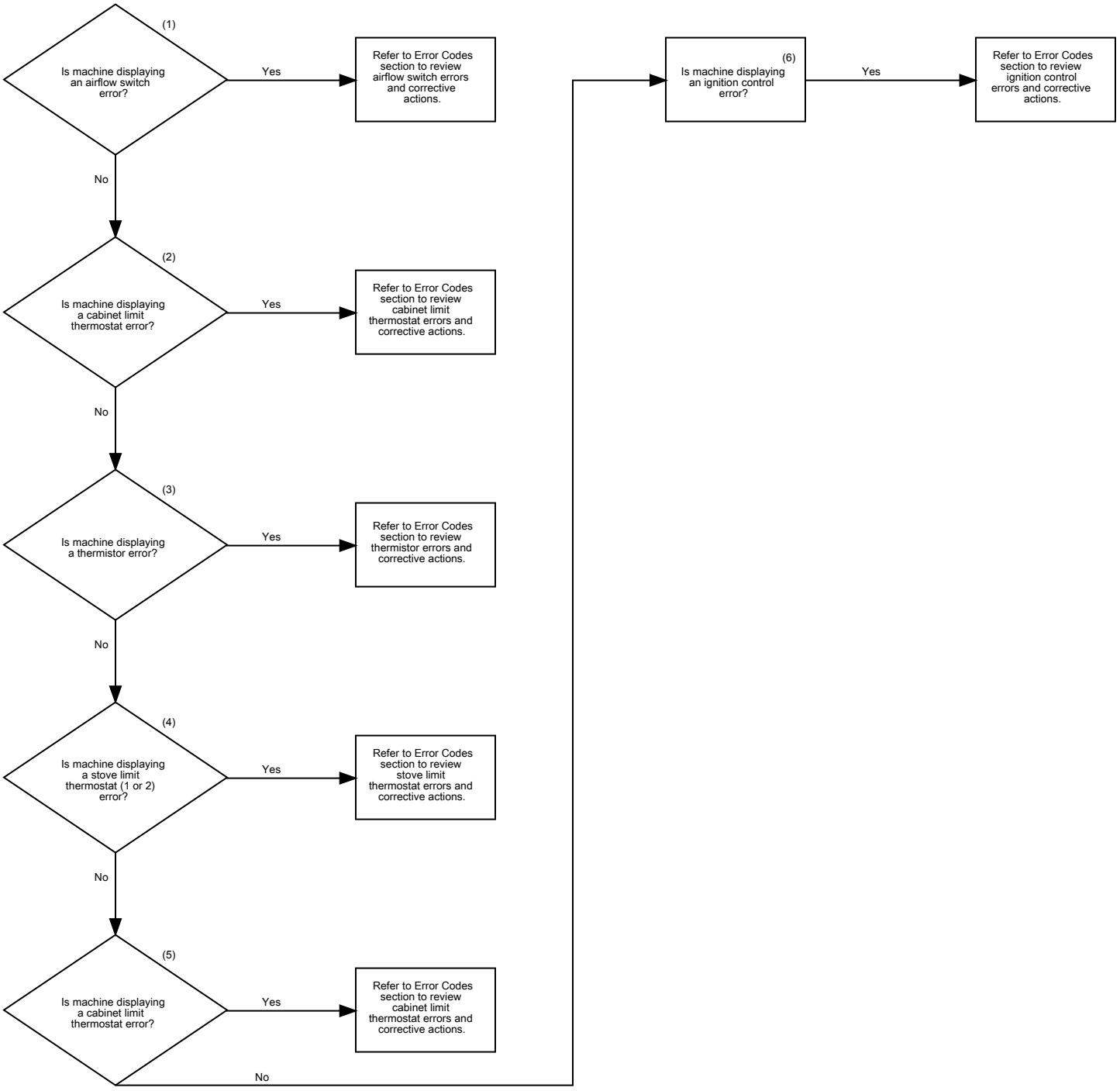


Fan and Drive Communication Error

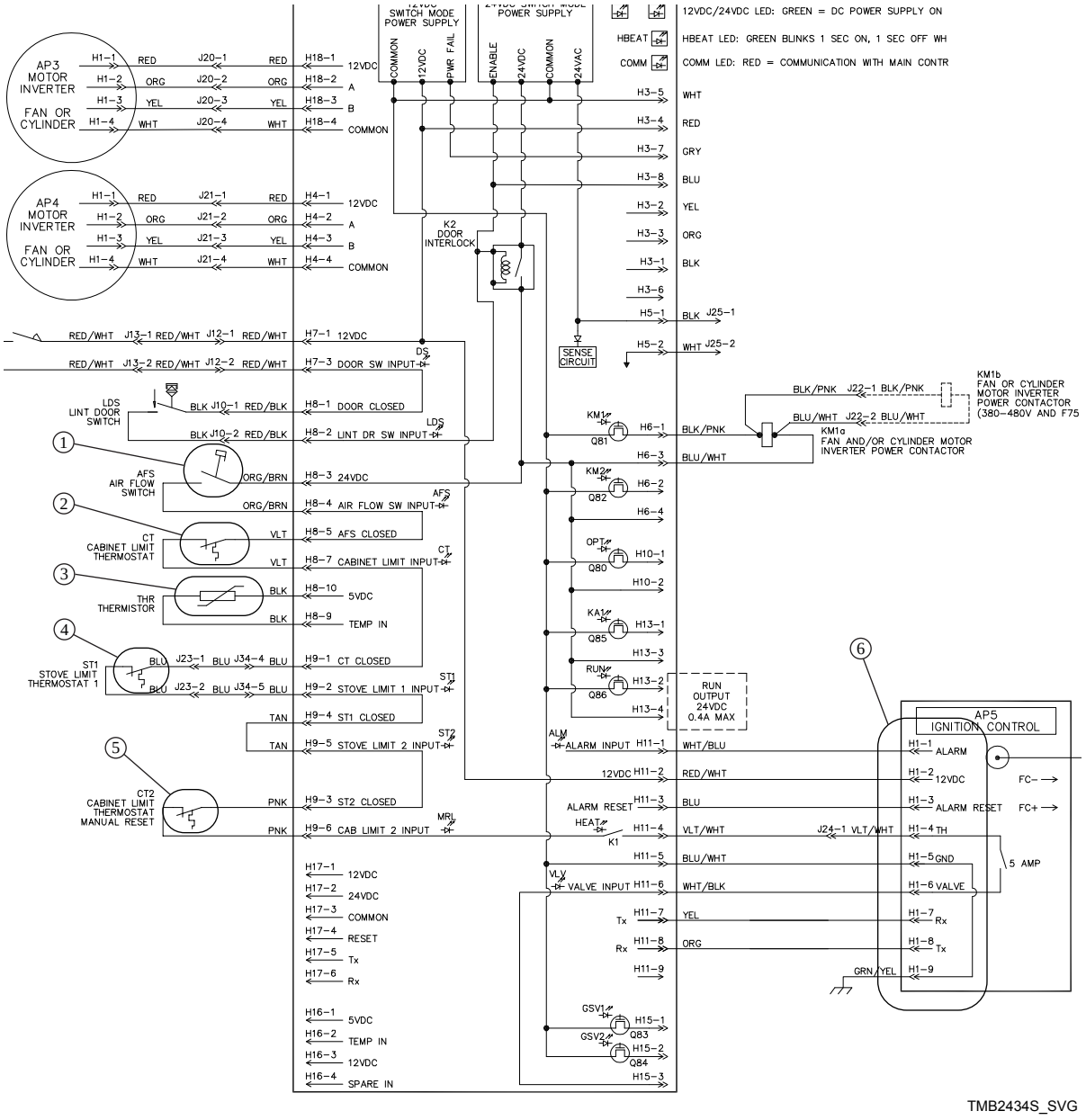




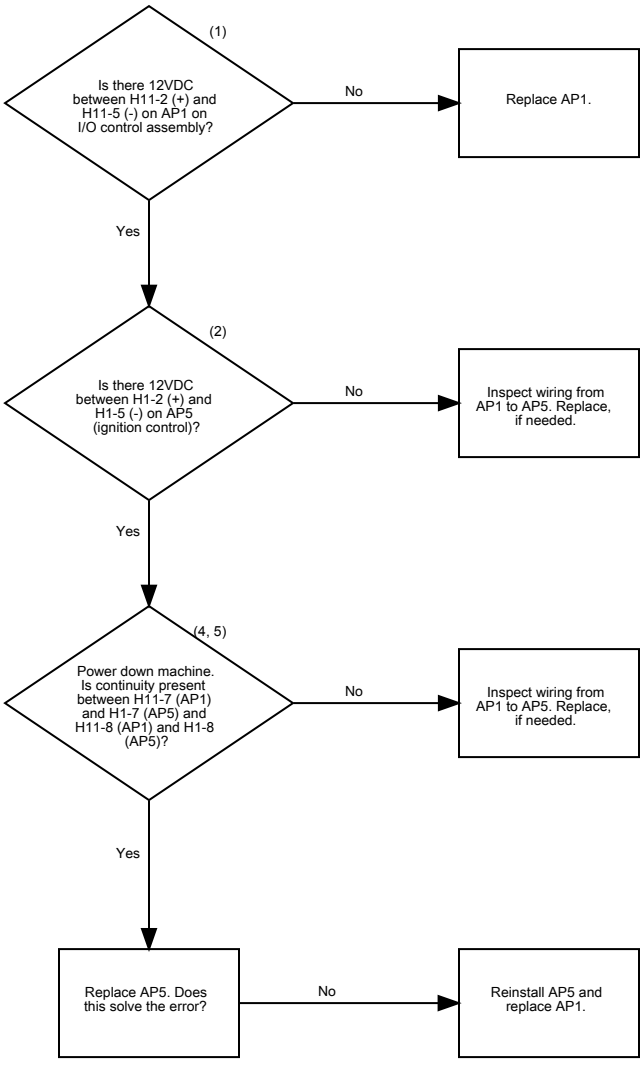
Heat Errors



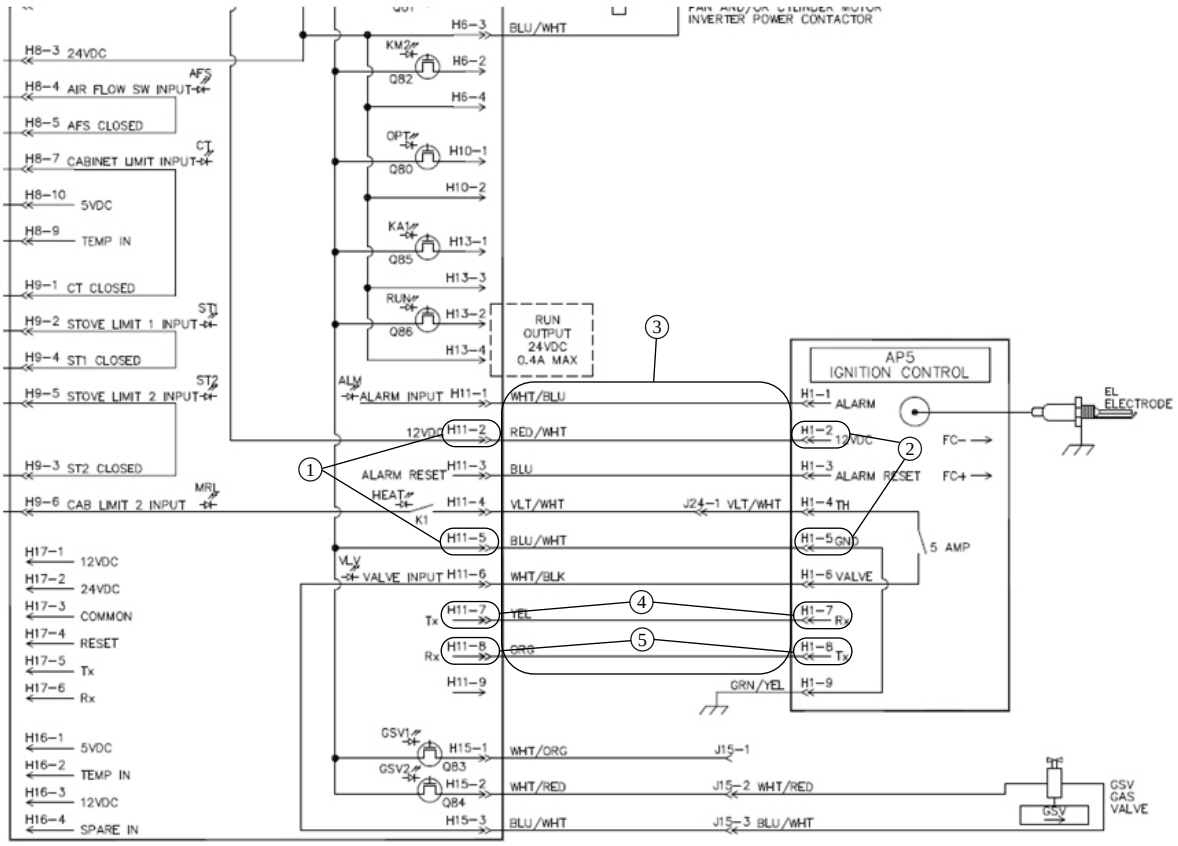
Heat Errors



ICM Communication Error

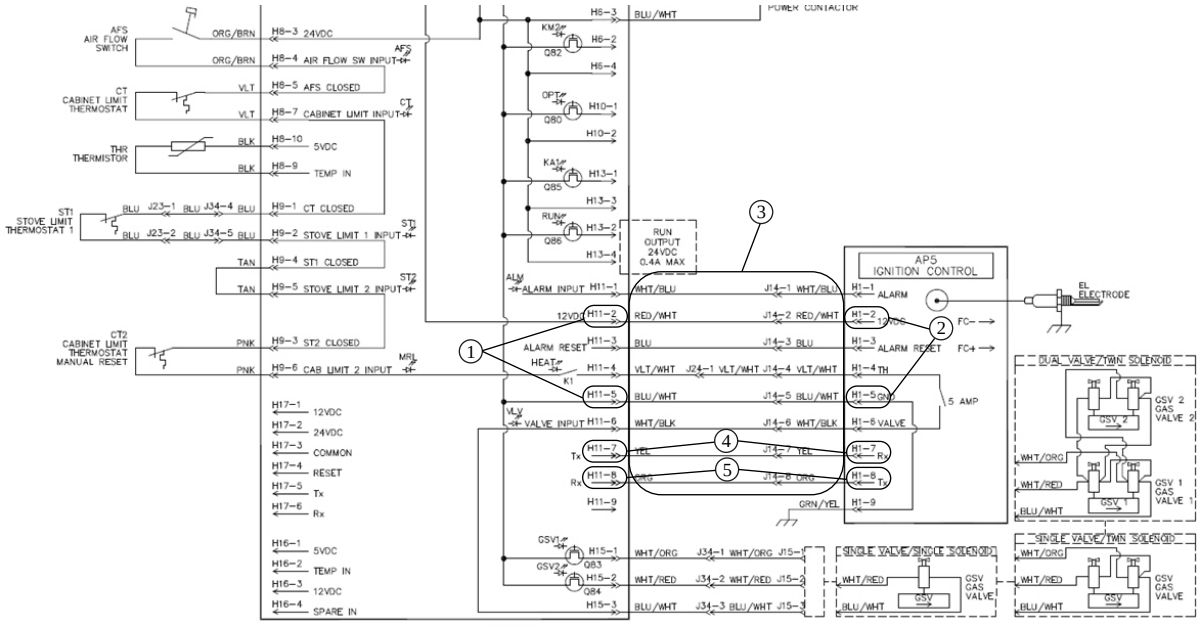


ICM Communication Error - 25-75 Pound Models



TMB2431S_SVG

ICM Communication Error - 120-200 Pound Models



TMB2432S_SVG

ICM Sequence

ICM for CSA (Part No. 70482001)

1. Power LED on.
2. Igniter will remain until flame is on or 10 seconds has elapsed.
3. If no flame is detected within the ignition period, the control will terminate power to the gas valve and igniter and retry. The retry attempts are programmable up to 255 attempts (factory default is 3).
4. Once a flame has been established, the spark igniter will stop sparking and the control will continually monitor all inputs. If the controller senses a loss of flame after flame is established, the gas valve will remain energized and sparking will commence within 0.8 seconds. If this ignition retry attempt fails, the control shall make two additional retry attempts as noted above. If all are unsuccessful, lockout will occur within 80 seconds of initial flame loss.
5. Failure to Ignite Control Lockout Power to gas valve removed, all request to heat will be ignored Lockout Mode may only be reset. Interrupting power to the control or cycling the thermostat will have no effect.
6. To reset an ICM error, follow the first lockout sequence below, then continue with second lockout procedure.

NOTE: CSA ignition sequence does not include second lockout procedure.

ICM for IEC (Part No. 70482002)

1. Power LED on.
2. ICM initialize a 23 second pre-purge.
3. Igniter will remain until flame is on or 10 seconds has elapsed.
4. If no flame is detected within the ignition period, the control will terminate power to the gas valve and igniter, and proceed with up to three additional re-try attempts. Including Purge sequence Failure to Ignite-Control Lock Out will follow.
5. Once a flame has been established, the spark igniter will stop sparking and the control will continually monitor all inputs. If the controller senses a loss of flame after flame is established, the gas valve will remain energized and sparking will commence within 0.8 seconds. If this ignition retry attempt fails, the control shall make two additional retry attempts as noted above. If all are unsuccessful, lockout will occur within 80 seconds of initial flame loss.

First Lockout Mode

1. Display will show E ,CM. Start button LED will be flashing.
2. Open loading door.
3. Control will return ot Ready Mode or Cycle Remaining. Push Start button.

Second Lockout Mode

1. Display will show E ,CM. Start button LED will not be flashing.
2. To reset, open service door panel.
3. Locate access panel program connector inside access panel. Open connector and reconnect.
4. Close service door panel. Start LED is lit.
5. Open loading door.
6. Control will return to Ready Mode or time remaining in cycle.

Final Error

Control will toggle between first and second lockout until auto-ignite retry attempts are exhausted. At this point, control will display E HE.

To clear E HE error, power down tumble dryer.

Auto-ignite retry attempts are programmable. Locate A ,G in programmable options list. Default value is 3. Auto-ignite retry attempts can be programmed from 0 (Disabled) or 1-255.

No Heat - Gas

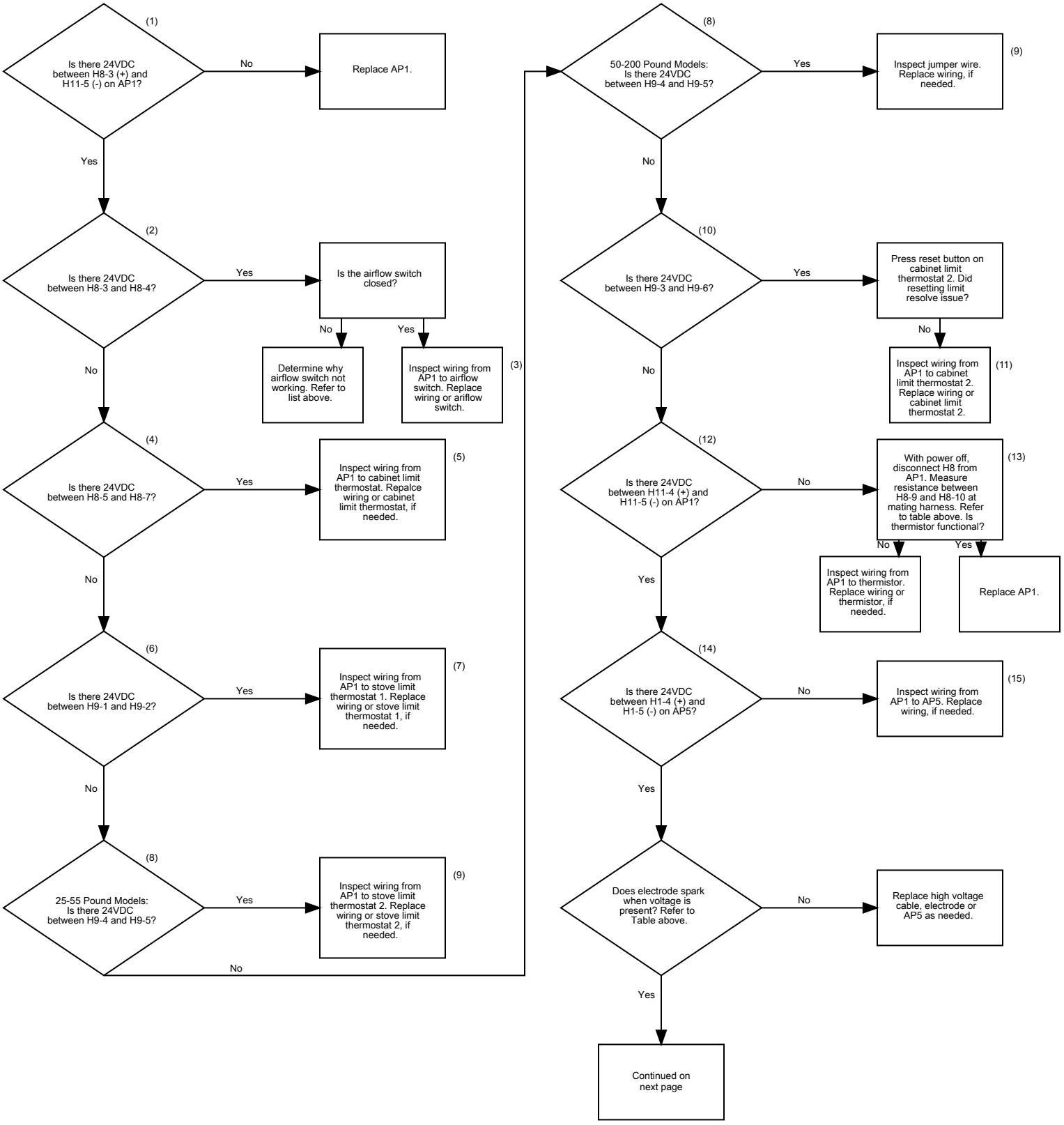
These measurements refer to thermistor and values will vary from unit to unit.
At 68°F [20°C], resistance should be 59,400 Ohms.
At 77°F [25°C], resistance should be 50,000 Ohms.
At 86°F [30°C], resistance should be 40,285 Ohms.
At 95°F [35°C], resistance should be 32,660 Ohms.
Resistance should decrease as the temperature increases.

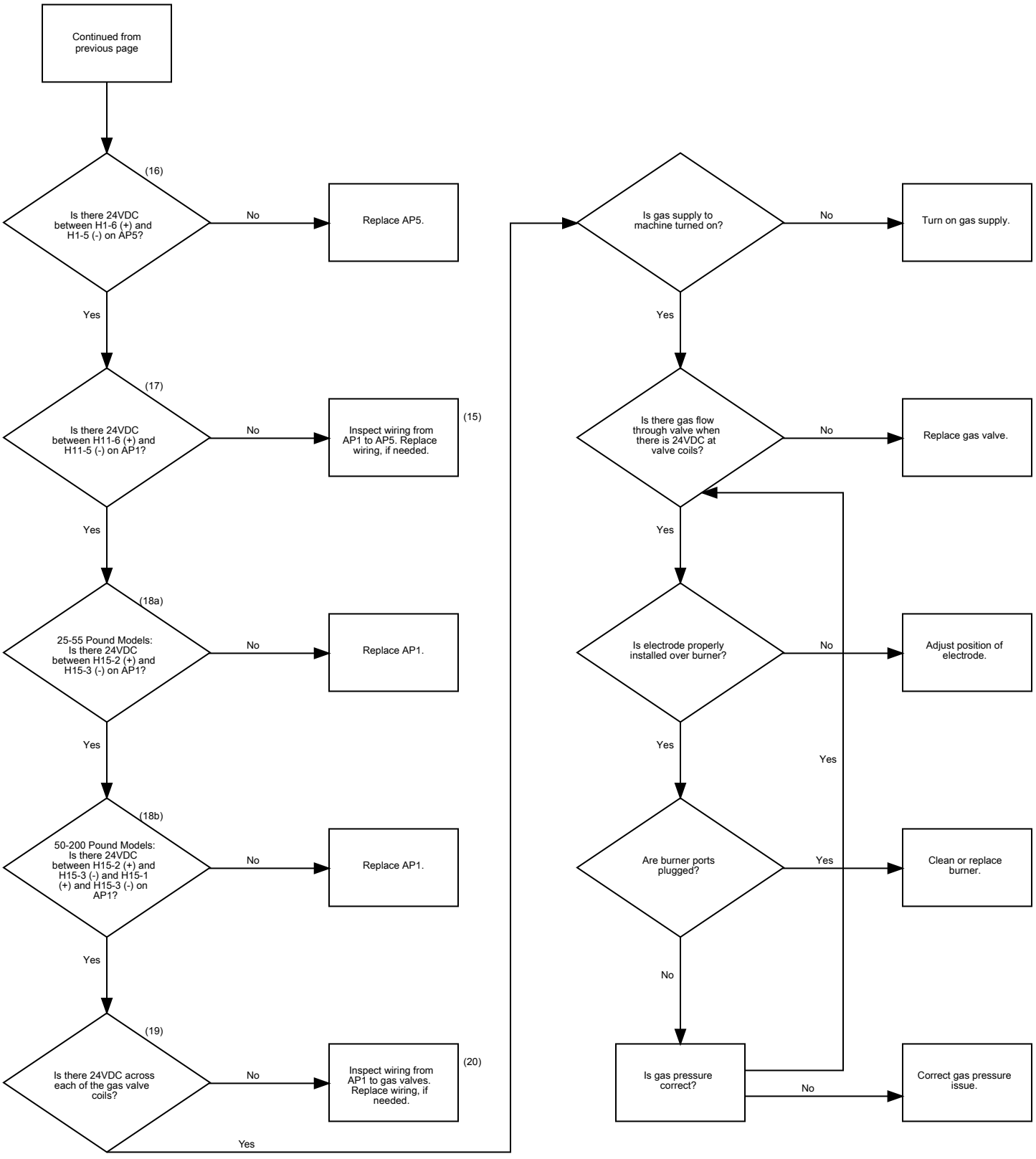
Checks for airflow switch:

- Is exhaust blocked?
- Is fan not spinning or is it damaged?
- Clean lint compartment after every eight hour shift. Check back draft damper for foreign objects, lint accumulation or other causes that may prevent damper from opening.Check ductwork for lint build-up. Refer to Installation Manual to ensure that ductwork and make-up air openings are sized properly.Check exhaust outlet. If a screen has been installed on the outlet, it may be clogged with lint or frozen over in winter. NEVER install a screen over the exhaust outlet.

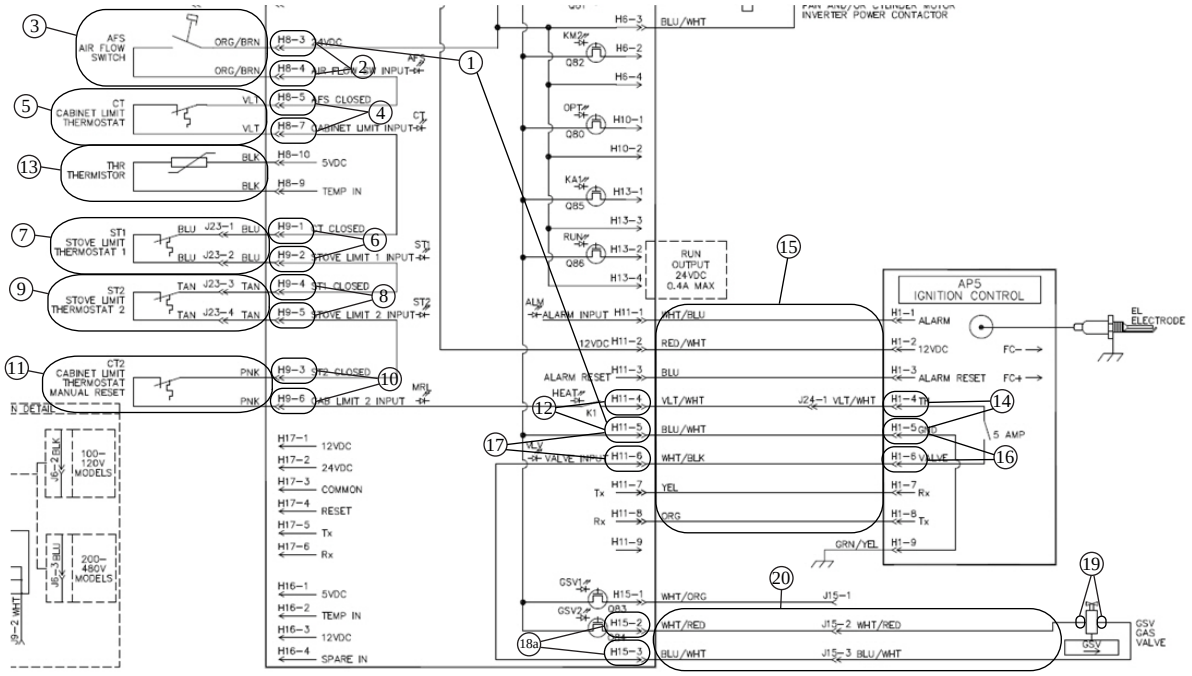
Electrode Spark	
CSA models:	After power is applied, the control will start sparking for 10 seconds.
AGA and IEC models:	After a 23 second pre-purge time, the electrode will begin sparking for 10 seconds.

NOTE: All testing should be conducted with the unit running and calling for heat.



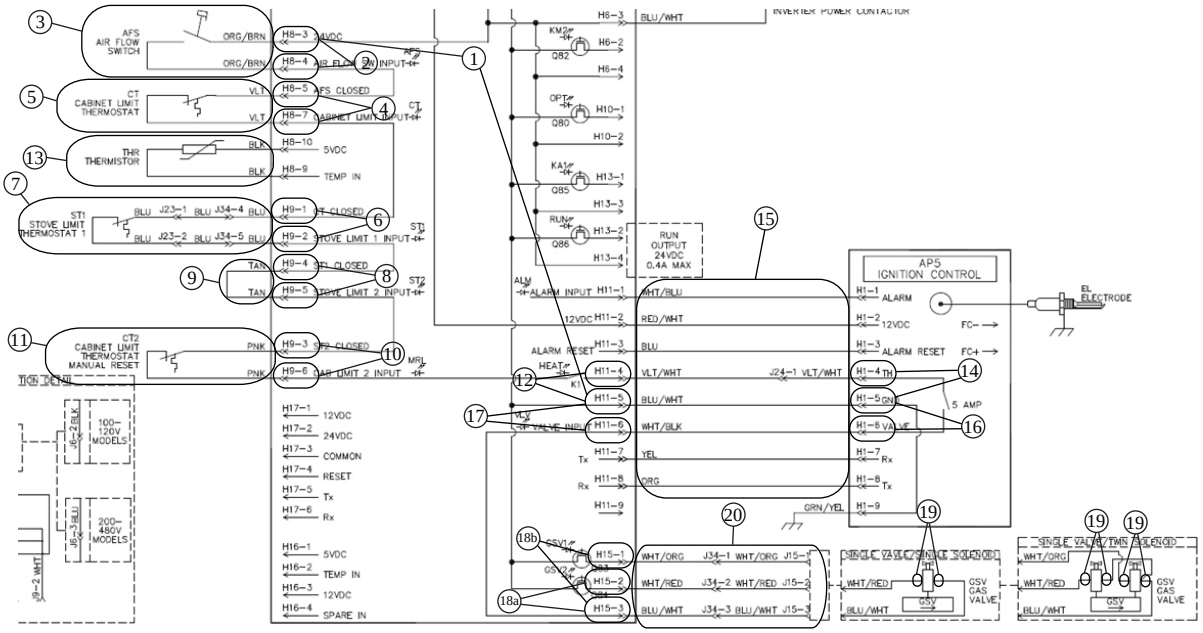


No Heat Gas - 25-55 Pound Models



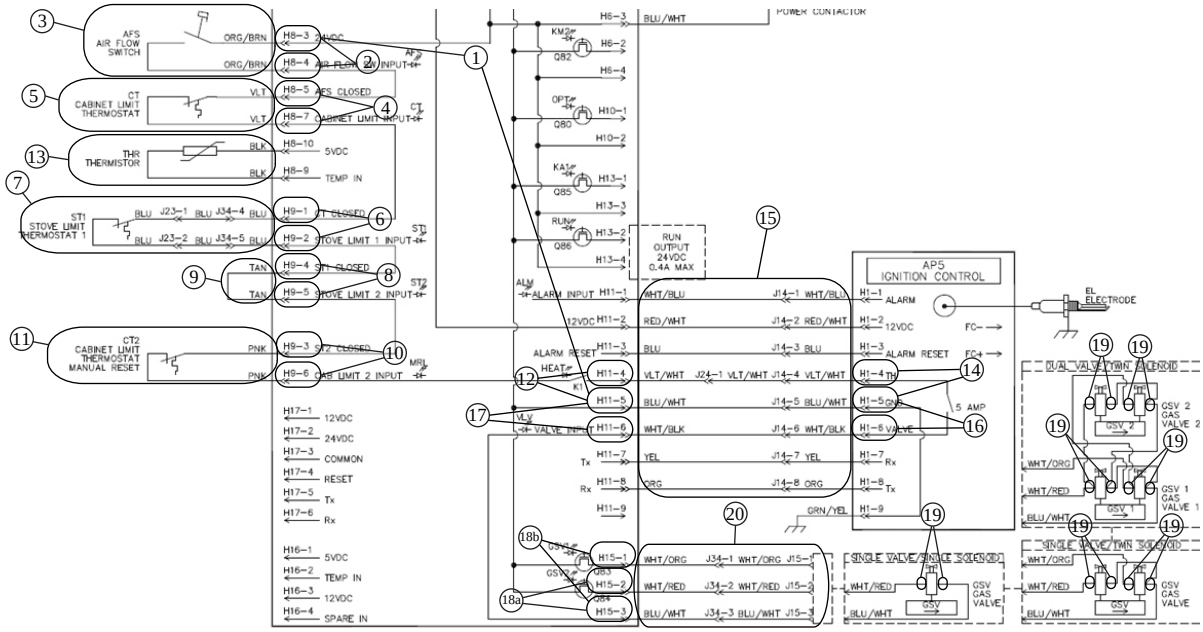
TMB2435S_SVG

No Heat Gas - 50-75 Pound Models



TMB2436S_SVG

No Heat Gas - 120-200 Pound Models



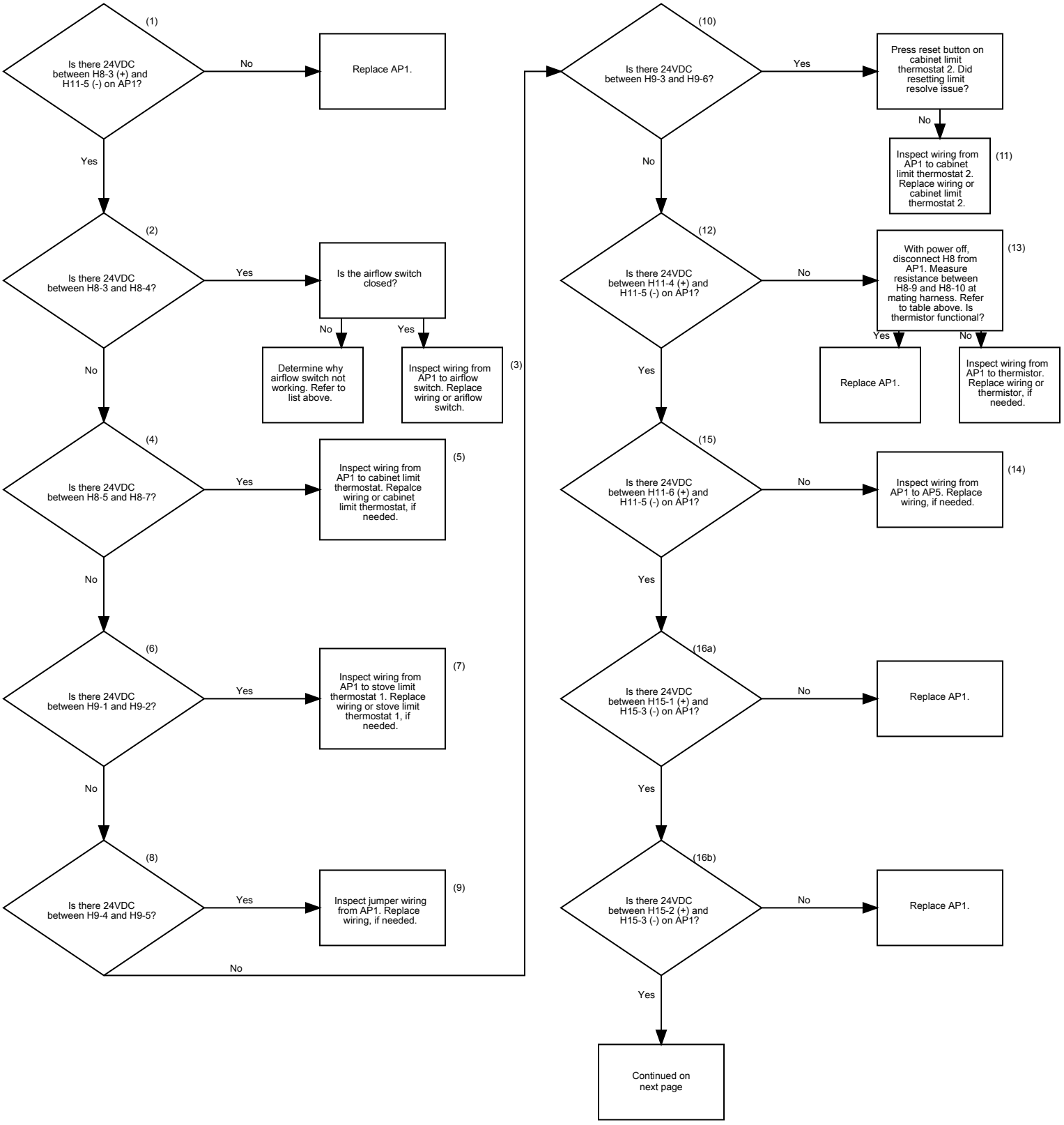
No Heat - Electric

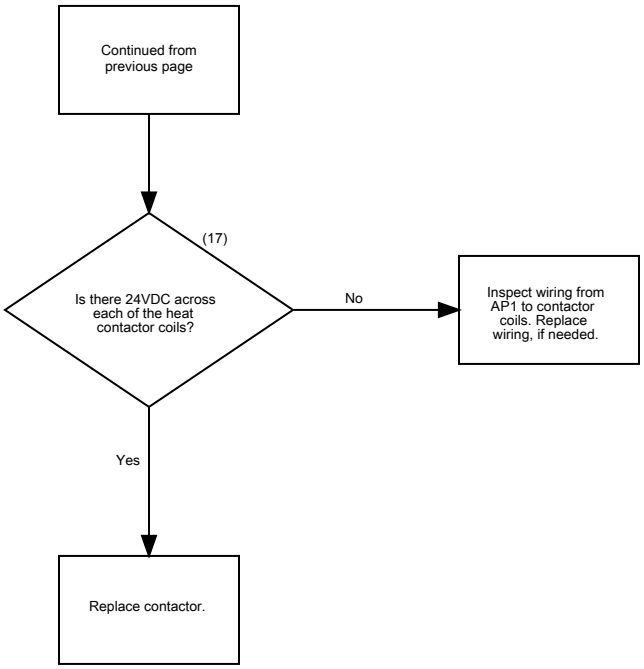
These measurements refer to thermistor and values will vary from unit to unit.
At 68°F [20°C], resistance should be 59,400 Ohms.
At 77°F [25°C], resistance should be 50,000 Ohms.
At 86°F [30°C], resistance should be 40,285 Ohms.
At 95°F [35°C], resistance should be 32,660 Ohms.
Resistance should decrease as the temperature increases.

Checks for airflow switch:

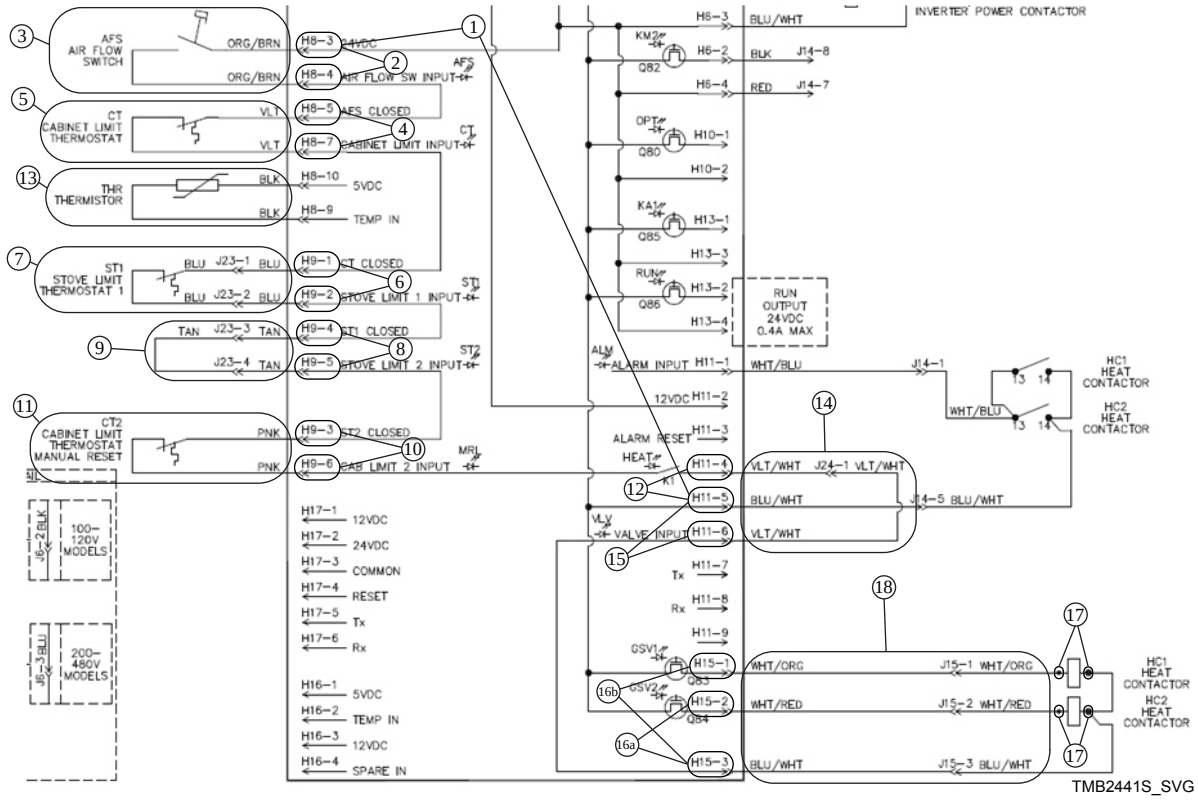
- Is exhaust blocked?
- Is fan not spinning or is it damaged?
- Clean lint compartment after every eight hour shift. Check back draft damper for foreign objects, lint accumulation or other causes that may prevent damper from opening.Check ductwork for lint build-up. Refer to Installation Manual to ensure that ductwork and make-up air openings are sized properly.Check exhaust outlet. If a screen has been installed on the outlet, it may be clogged with lint or frozen over in winter. NEVER install a screen over the exhaust outlet.

NOTE: All testing should be conducted with the unit running and calling for heat.



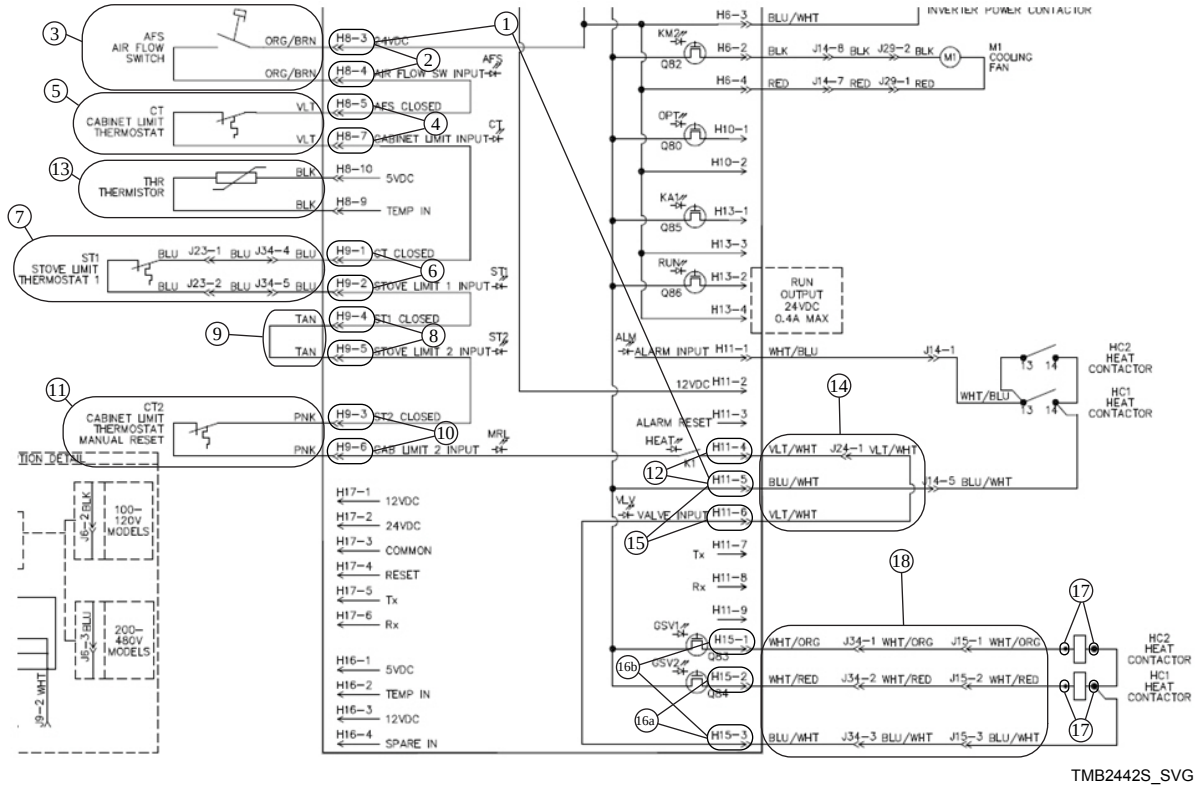


No Heat Electric - 25-55 Pound Models



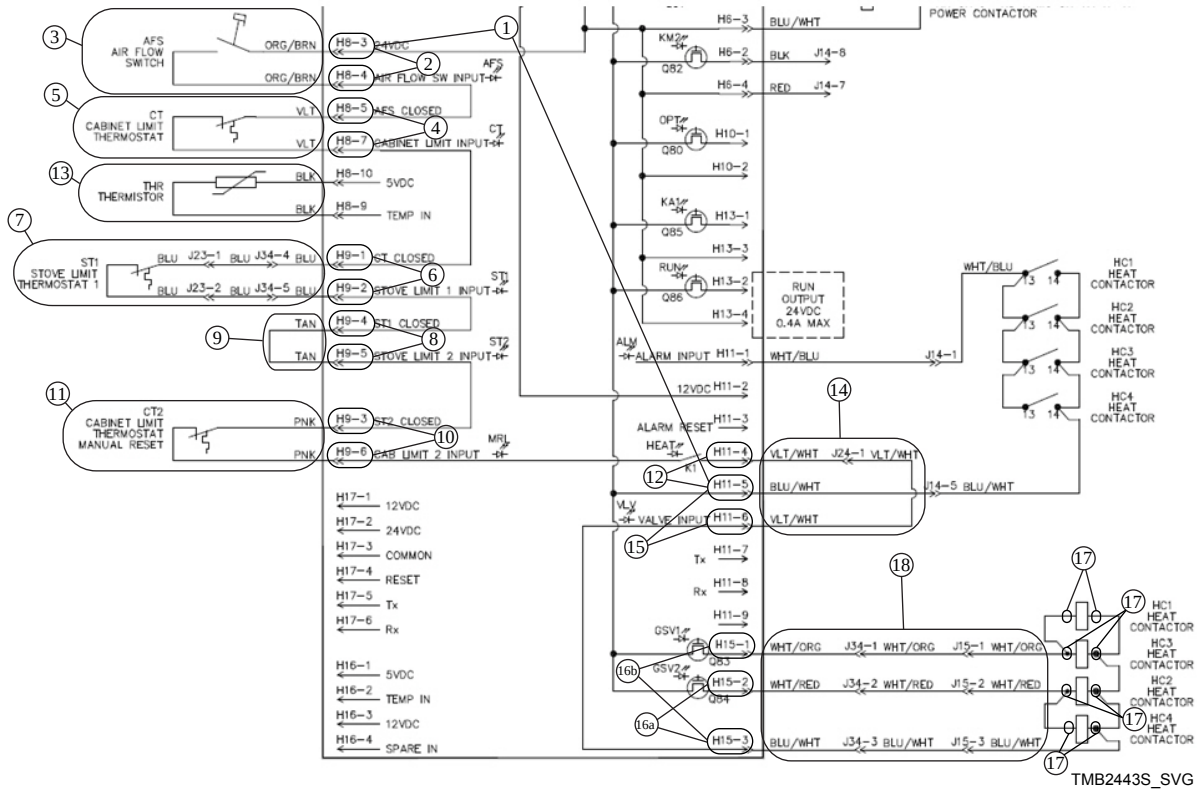
TMB2441S_SVG

No Heat Electric - 50-75 Pound Models



TMB2442S_SVG

No Heat Electric - 120 Pound Models



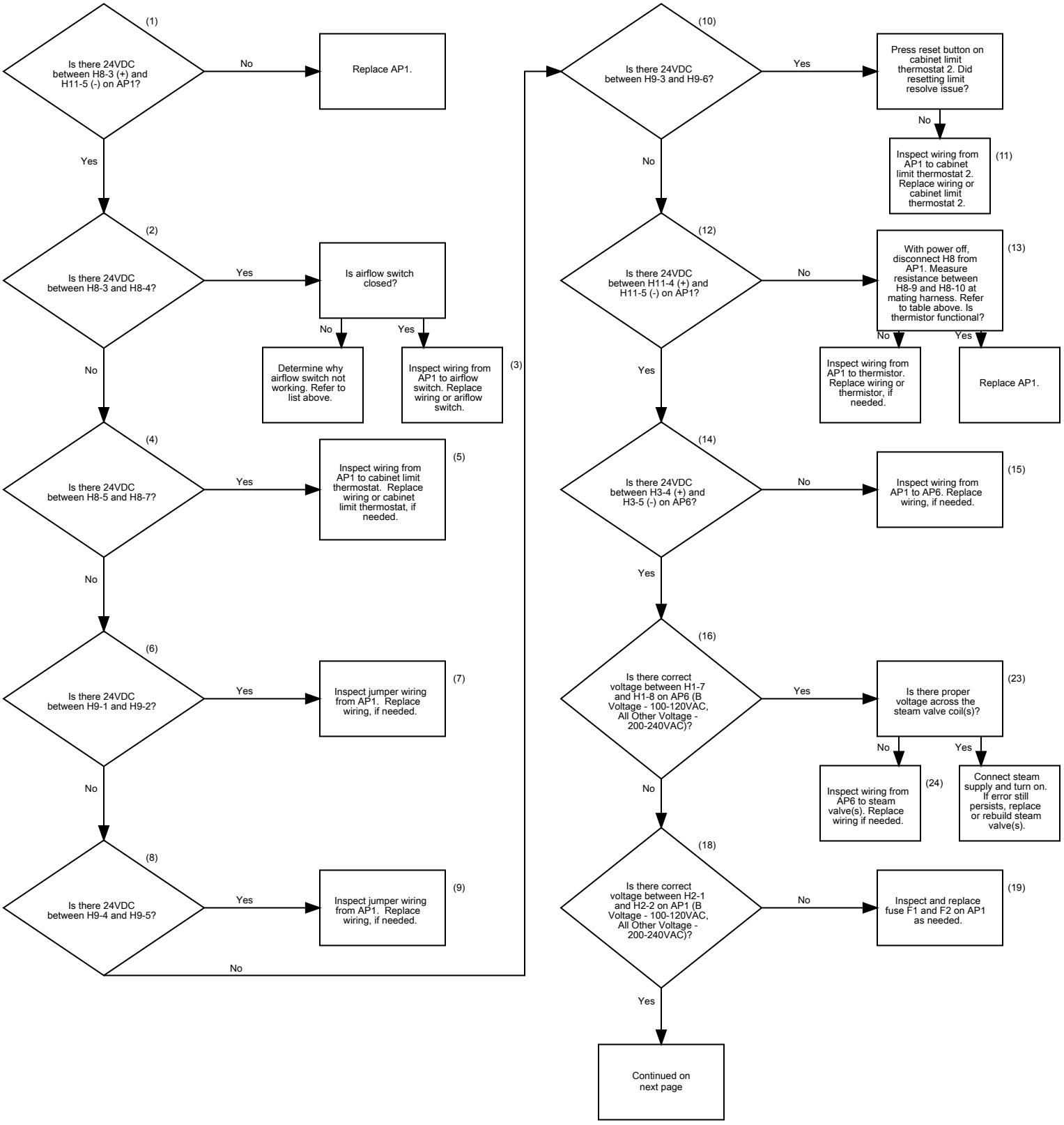
No Heat - Steam

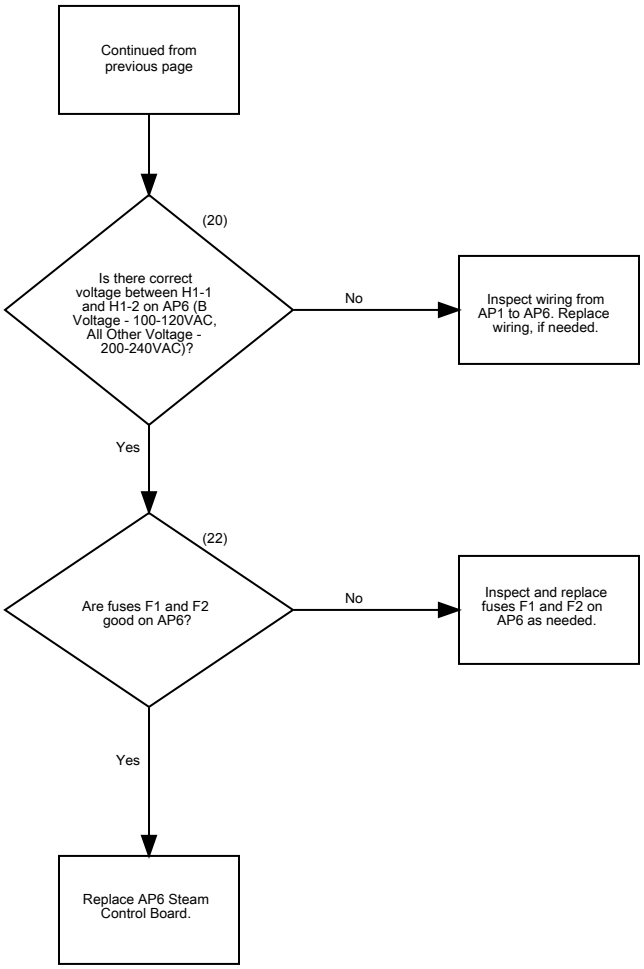
These measurements refer to thermistor and values will vary from unit to unit.
At 68°F [20°C], resistance should be 59,400 Ohms.
At 77°F [25°C], resistance should be 50,000 Ohms.
At 86°F [30°C], resistance should be 40,285 Ohms.
At 95°F [35°C], resistance should be 32,660 Ohms.
Resistance should decrease as the temperature increases.

Checks for airflow switch:

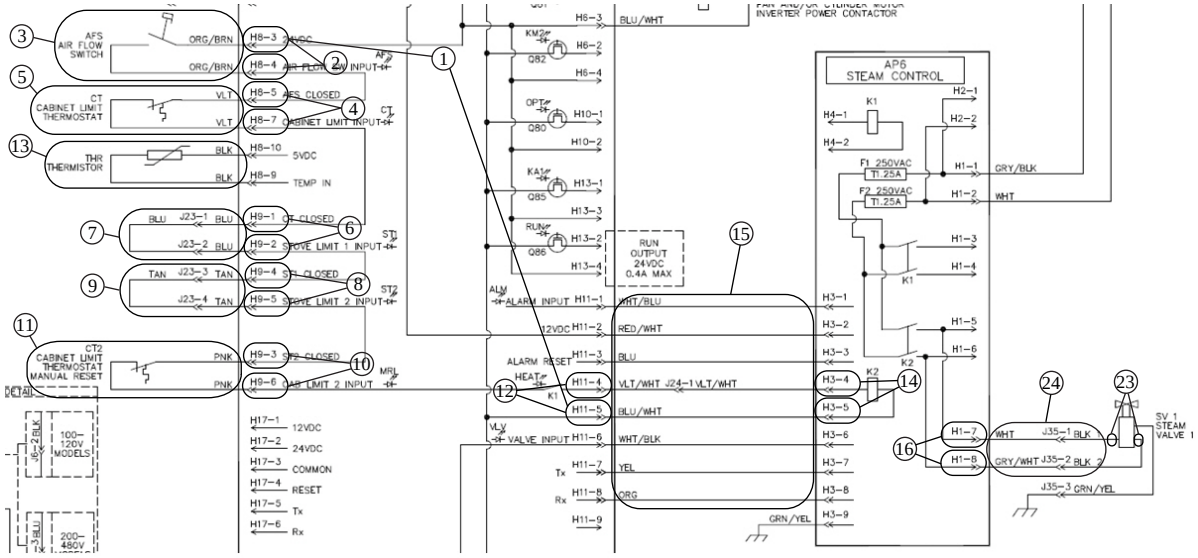
- Is exhaust blocked?
- Is fan not spinning or is it damaged?
- Clean lint compartment after every eight hour shift. Check back draft damper for foreign objects, lint accumulation or other causes that may prevent damper from opening.Check ductwork for lint build-up. Refer to Installation Manual to ensure that ductwork and make-up air openings are sized properly.Check exhaust outlet. If a screen has been installed on the outlet, it may be clogged with lint or frozen over in winter. NEVER install a screen over the exhaust outlet.

NOTE: All testing should be conducted with the unit running and calling for heat.



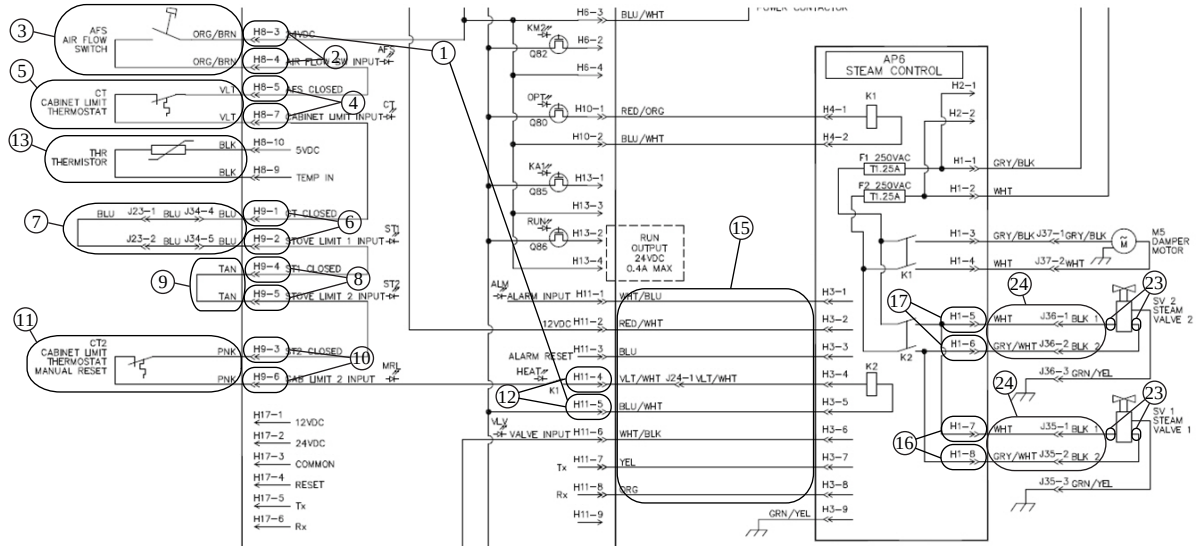


No Heat Steam - 25-55 Pound Models



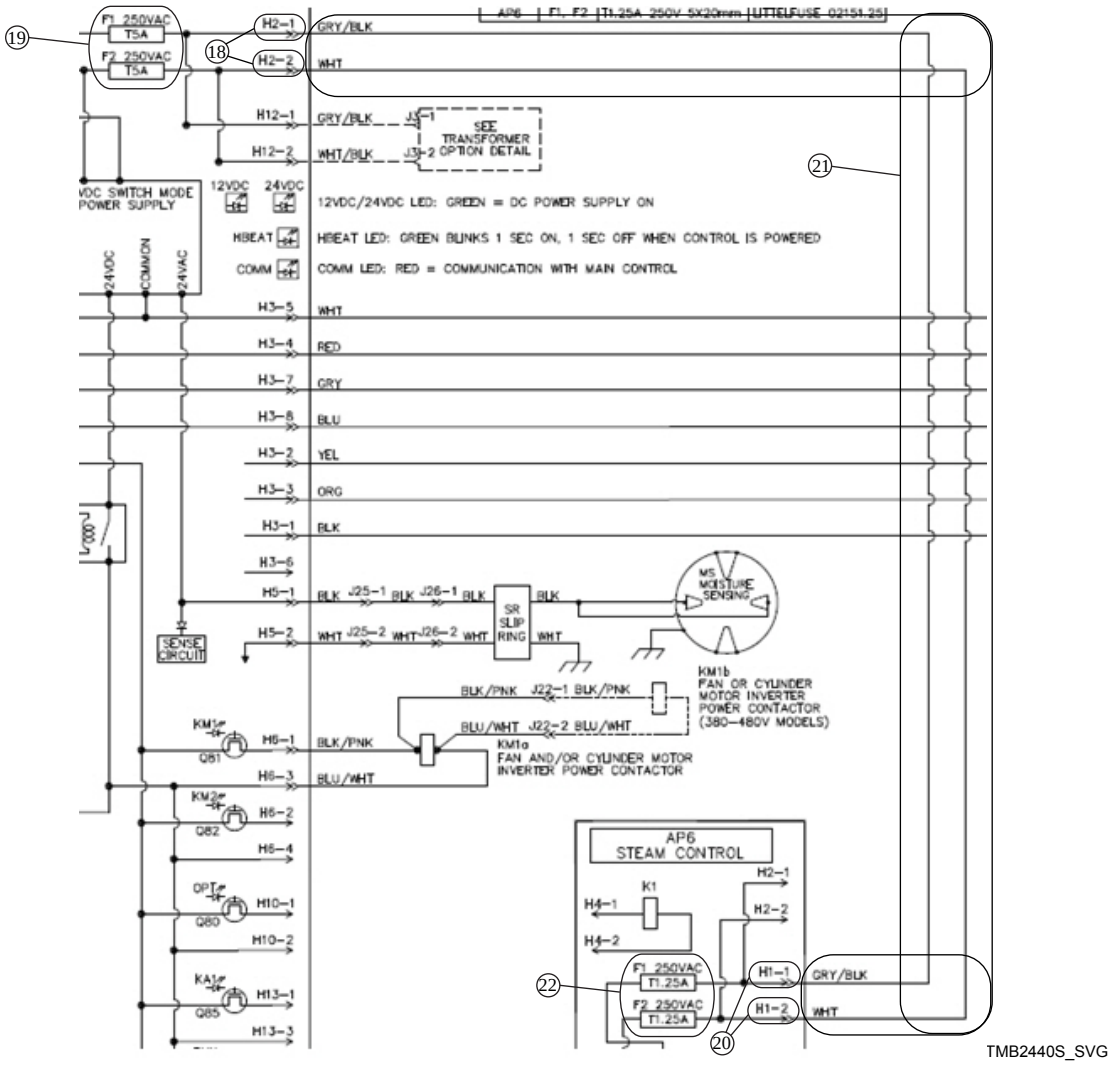
TMB2438S_SVG

No Heat Steam - 50-200 Pound Models (Steam valve 2 and damper motor only present on 120-200)

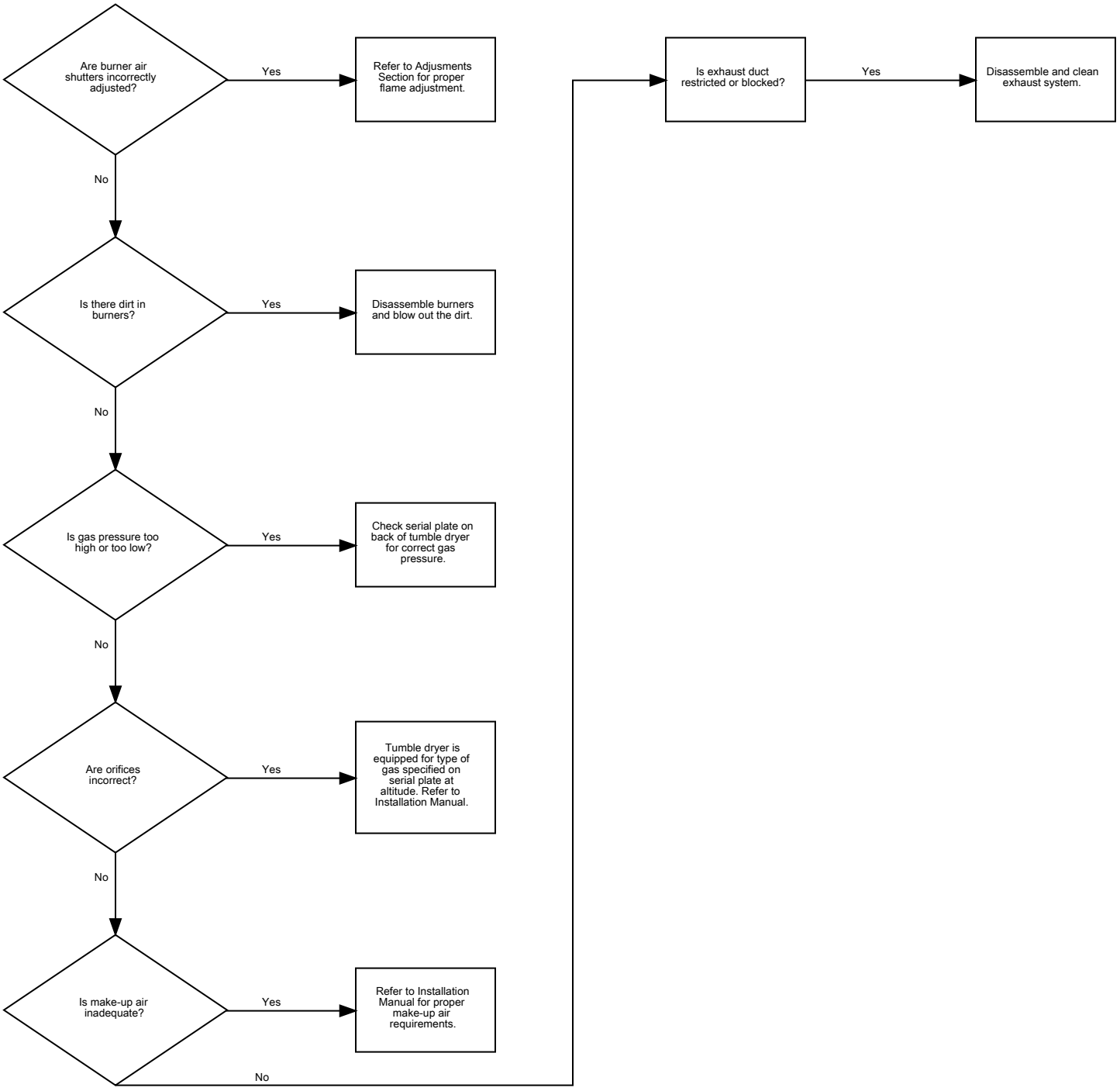


TMB2439S_SVG

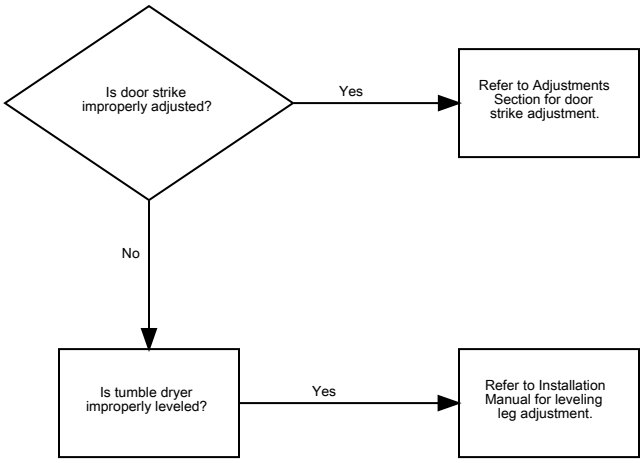
No Heat Steam - All Models



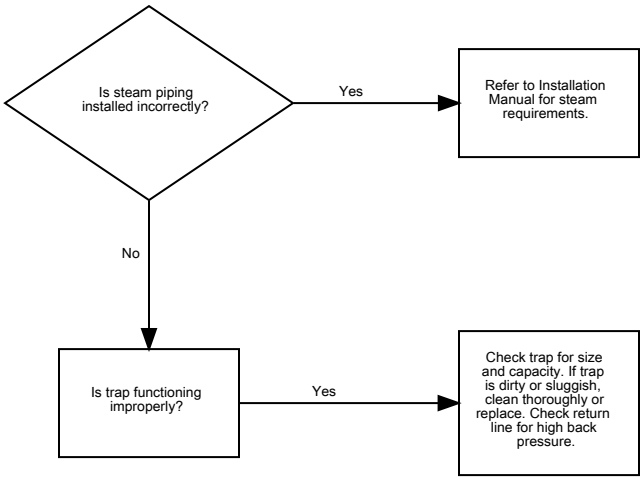
Burners Not Burning Properly - Gas Models



Loading Door Opens During Operation



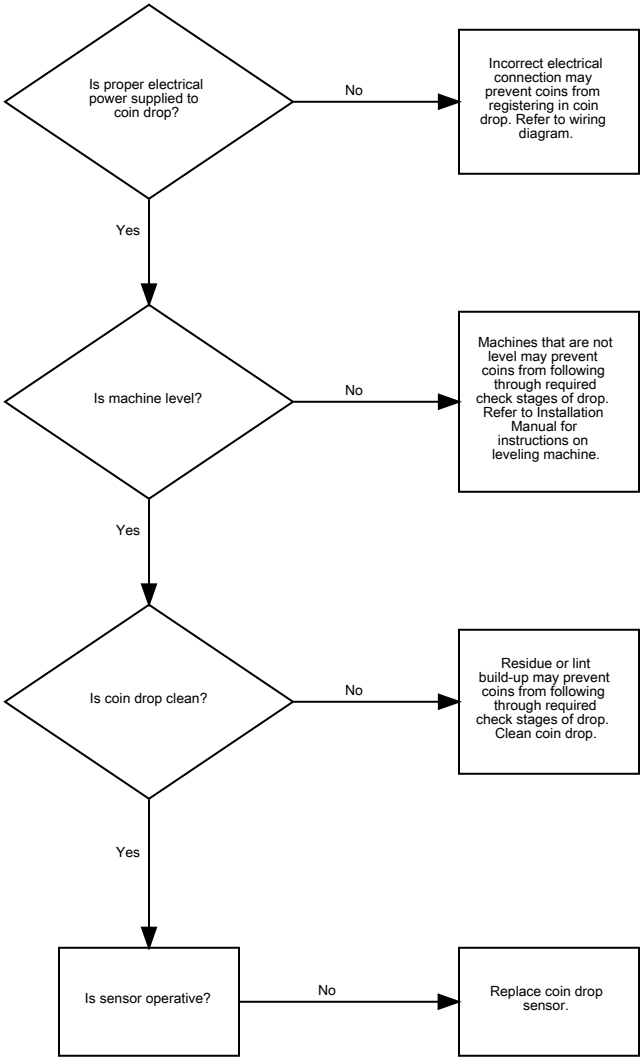
Water In Steam Line - Steam Models



Coin Does Not Fall Into Coin Vault or Coin Drop Sensor Does Not Register That Coin Has Been Entered

IMPORTANT: Never use oil to correct coin drop problem. Oil residue will prevent coins from rolling properly.

IMPORTANT: Do not bend or damage mechanical parts within coin drop.



Cylinder Is Stained

Over time, the cylinder and cylinder backs of tumble dryers can become “stained” from various melted fabrics. These discolored areas can be removed by scrubbing the inside of the cylinder with cleaner and a cleaning pad, such as Scotch- Brite®.

IMPORTANT: Do not use a steel wool pad to clean the cylinder. Steel wool can damage your machine.

Galvanized Cylinders

1. Spray the cleaner on the discolored areas and let soak for a few minutes.
2. Using the pad, scrub the areas until the discoloration is removed.
3. Repeat steps 1-2 as necessary.
4. Thoroughly wipe the entire cylinder after cleaning to insure the cleaner has been removed.

Stainless Steel Cylinders

1. Using a water spray bottle, wet the cylinder and cylinder back.
2. Sprinkle cleanser onto the pad and scrub the discolored areas.
3. Repeat steps 1-2 as necessary.
4. Thoroughly wipe the entire cylinder after cleaning to insure the cleanser has been removed.

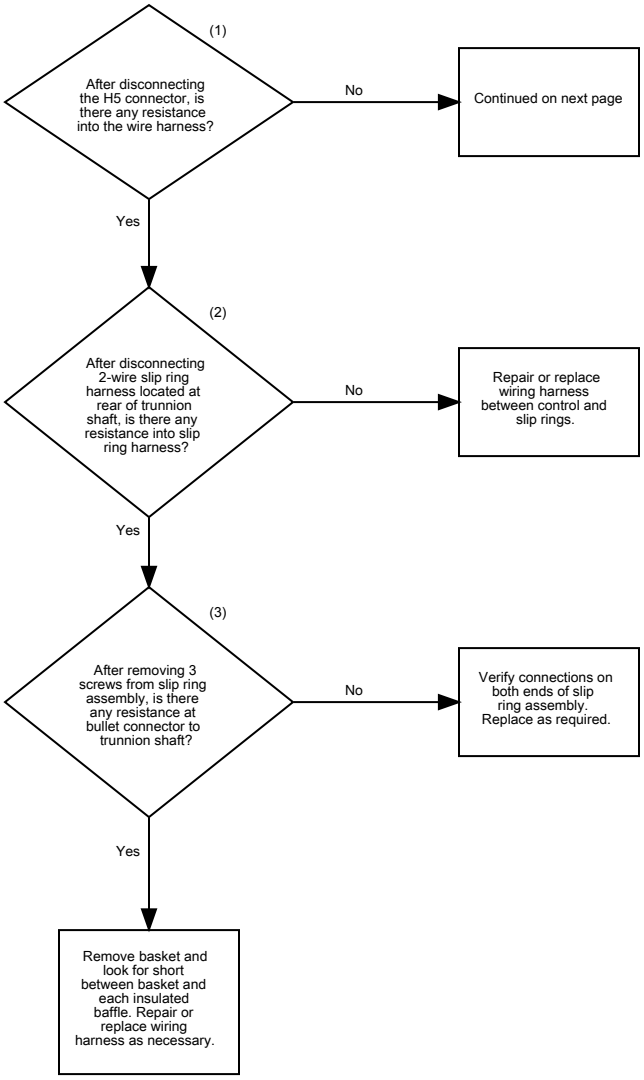
Moisture Sensor Troubleshooting

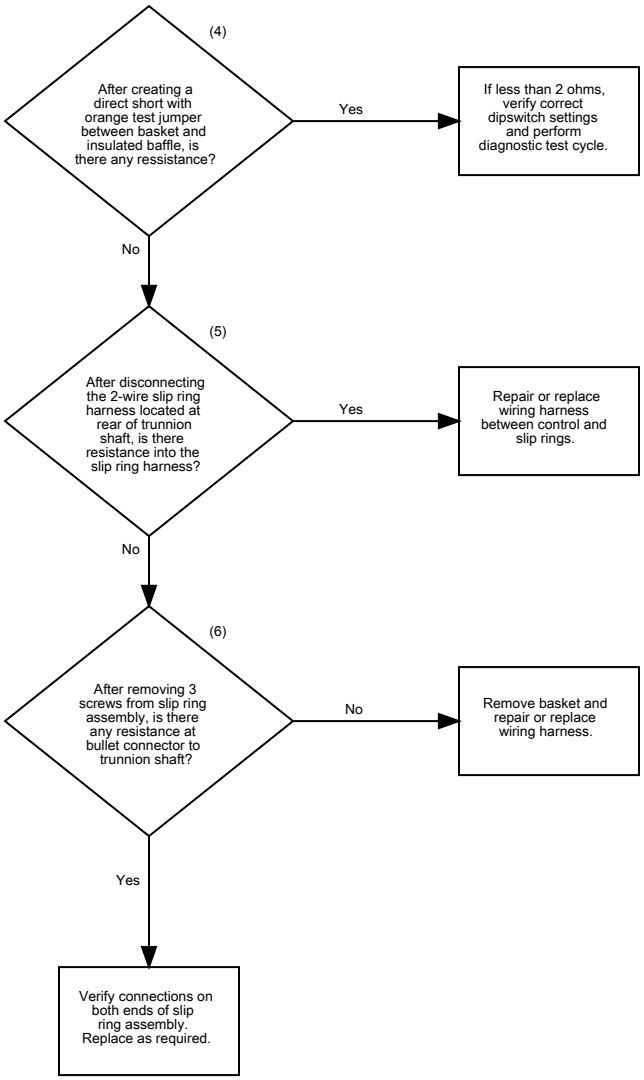
Moisture Sensor Error

NOTE: All testing must be done with an empty basket. Use the orange test jumper from Part No. 70468901 to assist in troubleshooting.

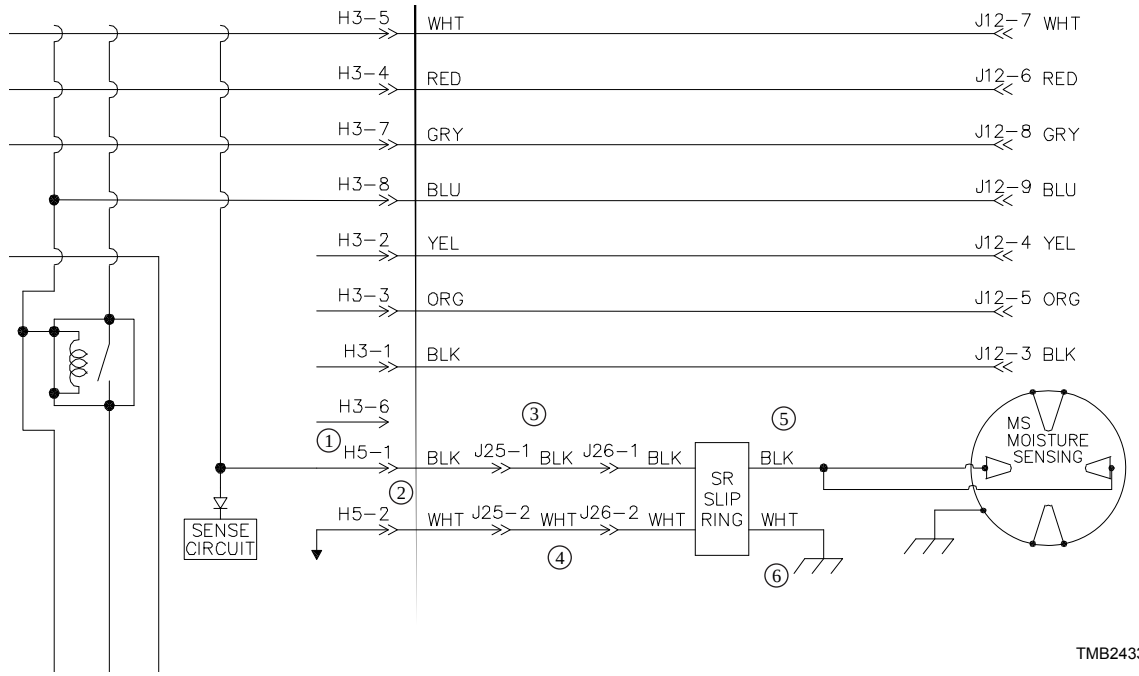
NOTE: Test procedures should be verified on each insulated baffle independently.

NOTE: Loose or cut wires can cause intermittent shorts or opens. If this condition is suspected, a close inspection of the wiring harnesses is required. Remove the basket for a proper wire harness inspection.





Moisture Sensor Error



Troubleshooting the Moisture Sensor Circuit

CAUTION

To reduce the risk of electric shock, fire, explosion, serious injury or death:

- **Disconnect electric power to the tumble dryer before servicing.**
- **Close gas shut-off valve to gas tumble dryer before servicing.**
- **Close steam valve to steam tumble dryer before servicing.**
- **Never start the tumble dryer with any guards/ panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumble dryer is properly grounded.**

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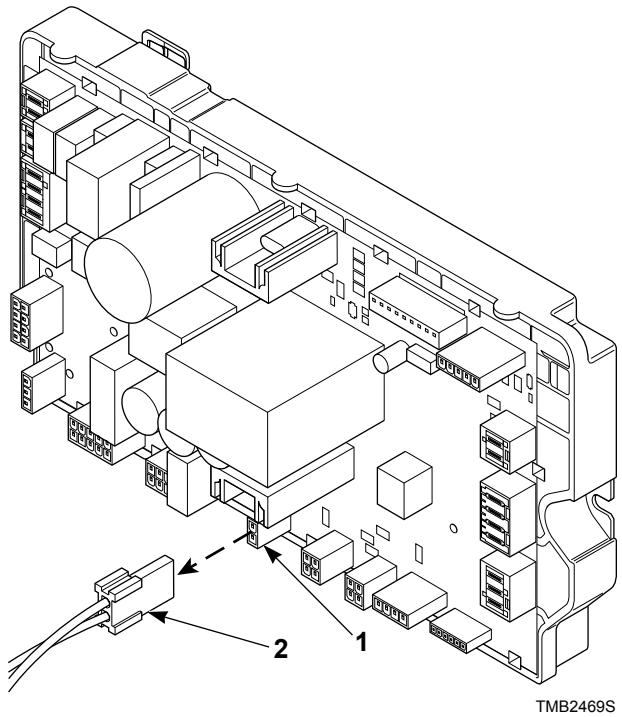
NOTE: Troubleshooting must be done with the machine basket empty.

Troubleshooting at the Control

1. On the control board, unplug the harness from header H5 (Refer to *Figure 5*).

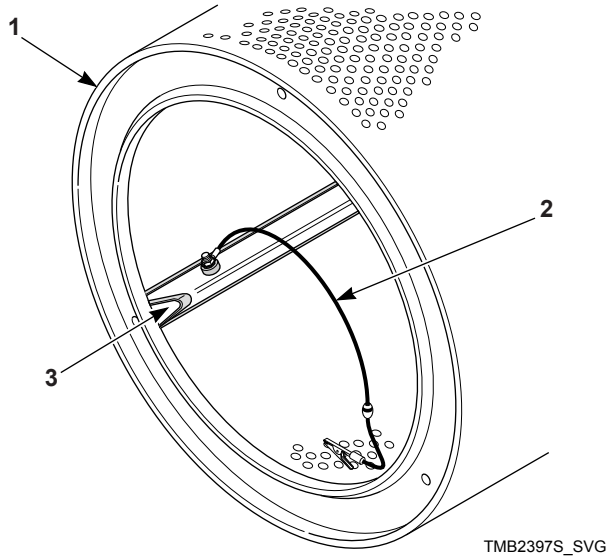


1. H5
2. Harness

Figure 5

2. Insert ohm meter probes into pins 1 and 2 of the harness. If the metered value is infinite resistance, open load (OL), proceed to step 3. If not, proceed to *Troubleshooting From Control to Slip Ring Assembly*.

3. Create a direct short between machine basket and moisture sensing baffle/ground using test jumper (Refer to *Figure 6*). If metered value is less than 1 ohm, circuit is functioning properly; double-check machine configuration and cycle programming. If 1 ohm or greater, proceed to *Troubleshooting From Control to Slip Ring Assembly*.

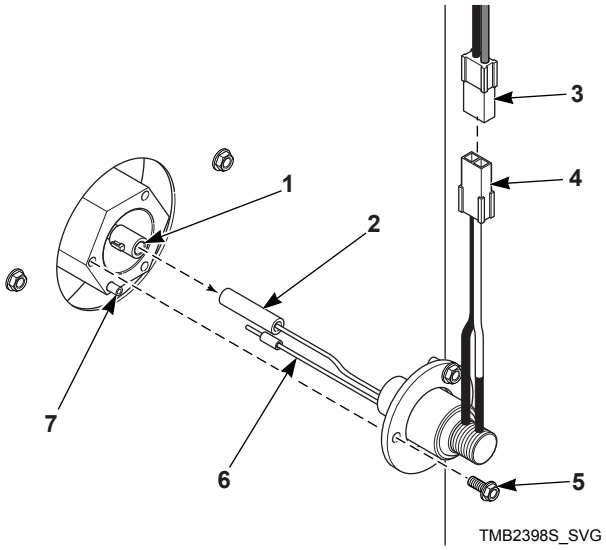


1. Basket
2. Test Jumper
3. Moisture Sensing Baffle

Figure 6

Troubleshooting From Control to Slip Ring Assembly

1. At the control, unplug harness at header H5 (Refer to *Figure 5*).
2. At the slip ring assembly, unplug the moisture sensing harness on the slip ring assembly (Refer to *Figure 7*).



1. Connector
2. Black Wire
3. Moisture Sensing Harness
4. Slip Ring Assembly Harness
5. Screws
6. White Wire
7. Set-Screw

Figure 7

3. An additional harness connection exists between the I/O board and the slip ring assembly. Inspect connection for intermittent connections or unplugged harness.
4. Insert ohm meter probes into pins 1 and 2 of the harness unplugged from H5. Ohm meter used must be capable of measuring at least 510 kΩ. If the metered value is infinite resistance, open load (OL), proceed to Step 6. If not, replace harness and return to *Troubleshooting at the Control*.
5. Create a direct short between pin 1 and 2 of the moisture sensing harness on the control side of the slip ring assembly (Refer to *Figure 7*). If the metered value is less than 1 ohm, proceed to *Troubleshooting At Slip Ring Assembly*. If 1 ohm or greater, replace harness and return to *Troubleshooting at the Control*.

Troubleshooting At Slip Ring Assembly

1. At the slip ring assembly, unplug the slip ring assembly harness on the control side of the slip ring assembly (Refer to *Figure 7*).
2. Remove the three (3) screws holding the slip ring assembly to basket shaft.
3. Carefully disconnect the white wire of the slip ring assembly from the set-screw on the basket shaft.
4. Carefully disconnect the black wire of the slip ring assembly from the connector in the basket shaft.

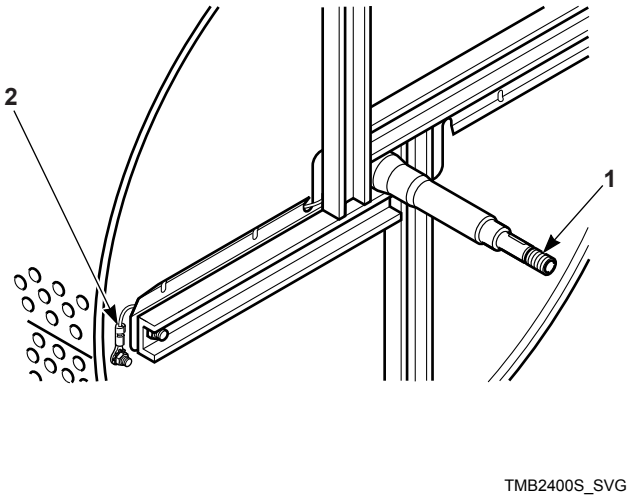
5. Connect one ohm meter probe to the black wire on the basket side of the slip ring assembly, and connect the other ohm meter probe to the black wire of the slip ring assembly harness. If the metered value is less than 1 ohm, proceed to Step 6. If 1 ohm or greater, replace slip ring assembly and return to *Troubleshooting at the Control*.
6. Connect one ohm meter probe to white wire on the basket side of the slip ring assembly, and connect the other ohm meter probe to the white wire of the slip ring assembly harness. If the metered value is less than 1 ohm, proceed to *Troubleshooting From Slip Ring Assembly to Moisture Sensing Baffle and Basket*. If 1 ohm or greater, replace slip ring assembly and return to *Troubleshooting at the Control*.

Troubleshooting From Slip Ring Assembly to Moisture Sensing Baffle and Basket

1. Remove three (3) screws holding slip ring assembly to basket shaft.
2. Carefully disconnect the white wire of the slip ring assembly from the set-screw on the basket shaft.
3. Carefully disconnect the black wire of slip ring assembly from the connector in the basket shaft.
4. Connect one ohm meter probe to the connector in the basket shaft. Connect the other ohm meter probe to the basket shaft itself. Ohm meter used must be capable of measuring at least 510 kΩ. If the metered value is infinite resistance, open load (OL), proceed to Step 5. If not, remove machine basket and proceed to *Troubleshooting From Basket Shaft to Moisture Sensing Baffle with Machine Basket Removed*.
5. Create a direct short between basket and moisture sensing baffle (Refer to *Figure 6*).
6. Connect one ohm meter probe to the connector in the basket shaft. Connect the other ohm meter probe to the basket shaft itself. If the metered value is less than 1 ohm, circuit is functioning properly; double-check machine configuration and cycle programming. If 1 ohm or greater, remove machine basket and proceed to *Troubleshooting From Basket Shaft to Moisture Sensing Baffle with Machine Basket Removed*.

Troubleshooting From Basket Shaft to Moisture Sensing Baffle with Machine Basket Removed

1. Disconnect and remove slip ring assembly before removing machine basket.
2. Remove machine basket.
3. Connect one ohm meter probe to the connector in the basket shaft (Refer to *Figure 8*).



1. Connector
2. Gray Wire Harness Terminal

Figure 8

4. Connect the other ohm meter probe to one of the gray wire harness terminals on the back end of the machine basket. If the metered value is less than 1 ohm, proceed to Step 5. If 1 ohm or greater, replace harness and return to *Troubleshooting at the Control*.
5. Connect one ohm meter probe to the connector in the basket shaft.
6. Connect the other ohm meter probe to the other gray wire harness terminal on the back end of the machine basket. If the metered value is less than 1 ohm, proceed to Step 7. If 1 ohm or greater, replace harness and return to *Troubleshooting at the Control*.
7. Connect one ohm meter probe to the connector in the basket shaft.
8. Connect the other ohm meter probe to one of the moisture sensing baffles (Refer to *Figure 6*). If the metered value is less than 1 ohm, proceed to Step 9. If 1 ohm or greater, proceed to *Troubleshooting at the Moisture Sensing Baffles with Machine Basket Removed*.
9. Connect one ohm meter probe to the connector in the basket shaft.
10. Connect the other ohm meter probe to the other moisture sensing baffle. If the metered value is less than 1 ohm, circuit is functioning properly; double-check machine configuration and cycle programming. If 1 ohm or greater, proceed to *Troubleshooting at the Moisture Sensing Baffles with Machine Basket Removed*.

Troubleshooting at the Moisture Sensing Baffles with Machine Basket Removed

1. Disassemble moisture sensing baffle and inspect for lint buildup and foreign objects. Verify wire harness connections.
2. Disassemble other moisture sensing baffle and inspect for lint buildup and foreign objects. Verify wire harness connections.
3. Double-check machine configuration and cycle programming.

Adjustments

CAUTION

To reduce the risk of electric shock, fire, explosion, serious injury or death:

- **Disconnect electric power to the tumble dryer before servicing.**
- **Close gas shut-off valve to gas tumble dryer before servicing.**
- **Close steam valve to steam tumble dryer before servicing.**
- **Never start the tumble dryer with any guards/ panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumble dryer is properly grounded.**

W002R1

Gas Burner Air Shutter-Gas Models

NOTE: Air inlet shutters on the burner must be adjusted so sufficient air is metered into the system for proper combustion and maximum efficiency. Before adjusting the inlet shutters be sure that all lint is removed from lint compartments and lint screen.

Air shutter adjustments will vary from location to location and will depend on the vent system, number of units installed, make-up air and line gas pressure. Opening the shutter increases the amount of primary air supplied to the burner while closing the shutter decreases the primary air supply. Adjust air shutter as follows:

Refer to *Figure 9* .

1. Remove guards in order to see flame pattern.
   a. 25-55 and 120-200 Pound Models: Remove the burner inspection hole plate.
   b. 50-75 pound Models: Open the upper front access panel and remove the burner inspection hole plate.

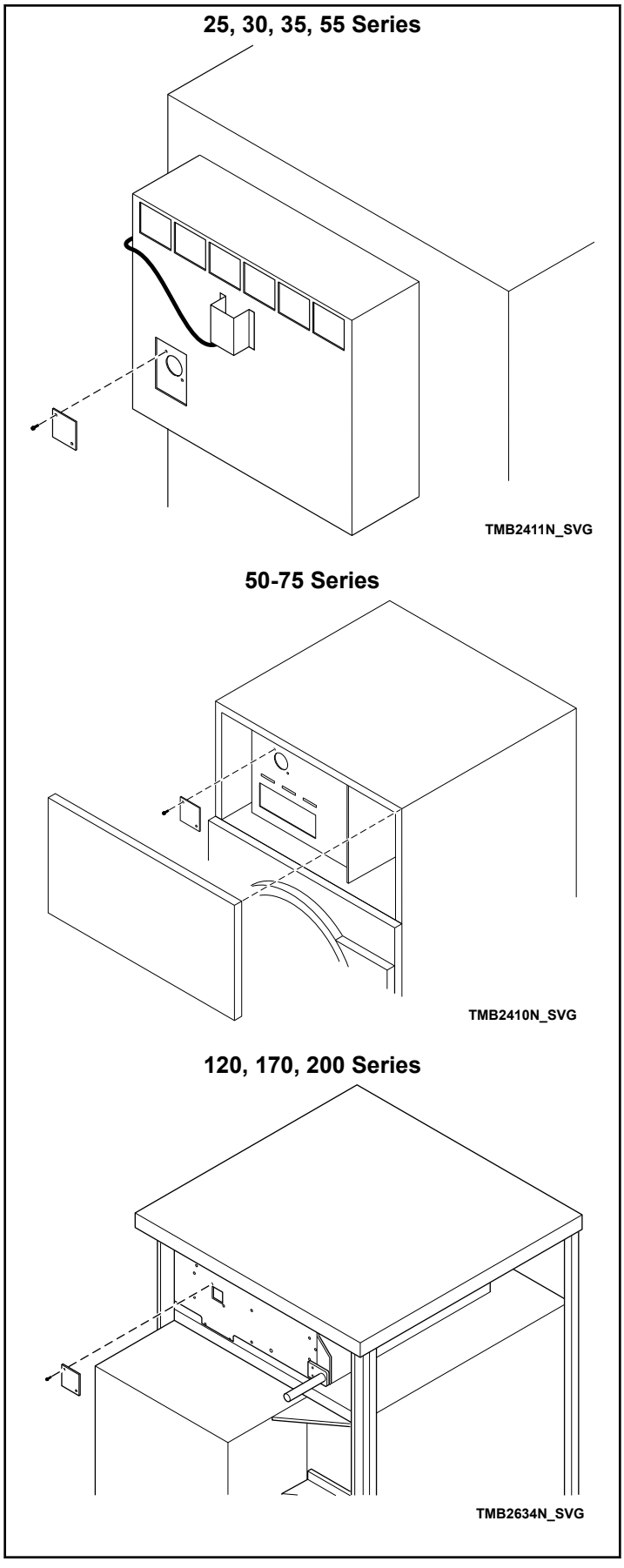
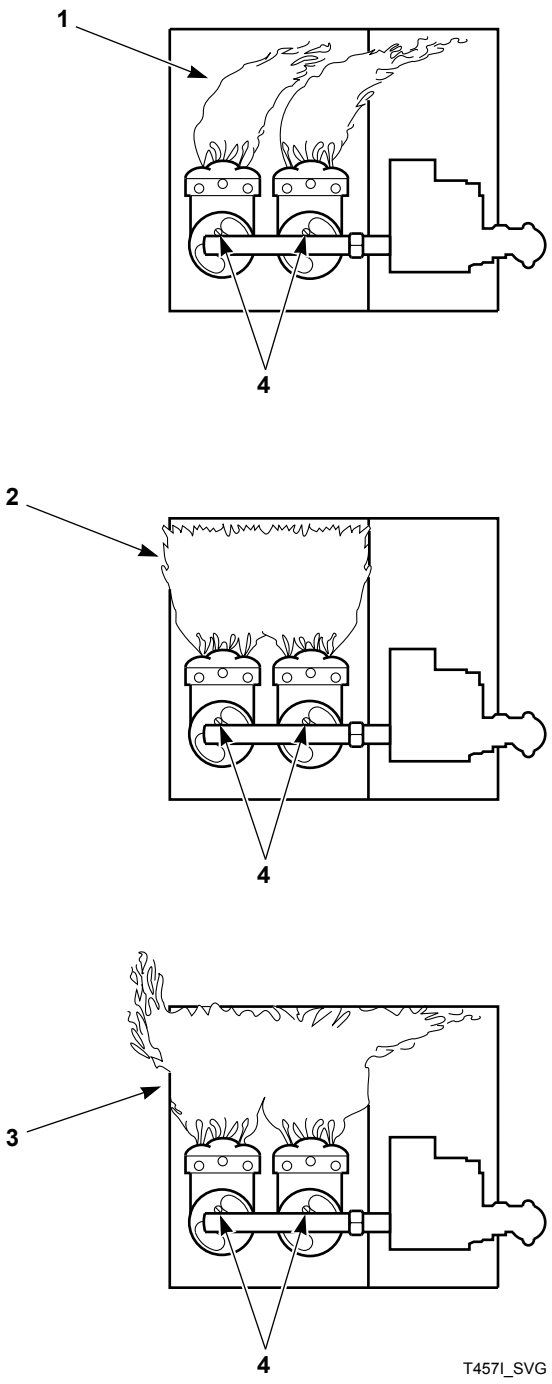


Figure 9

2. Start the tumble dryer and check the flame pattern. If the flame pattern is straight up, insufficient air is flowing through the tumble dryer. A flame pattern that flares to the right and left indicates no air is flowing through the tumble dryer. Correct air and gas mixture is indicated if the flame pattern is primarily blue, with small yellow tips, and bends to the right of the heater section. Too little air is indicated if the flame if yellow, lazy and smokey. (A whistling sound from burner could also be caused by an improper air shutter setting.)
3. To adjust the air shutter, loosen air inlet shutter adjusting screw.
4. Open or close air shutter as necessary to obtain proper flame intensity.
5. After air shutter is adjusted for proper flame, tighten air shutter adjusting screw securely.
6. If the shutter is correctly adjusted, but the flame pattern is straight up, insufficient air is flowing through the tumble dryer. A flame pattern that flares to the right and left indicates that no air is flowing through the tumble dryer. Check make-up air and exhaust vent.



1. Proper Airflow
2. Insufficient Airflow
3. No Airflow
4. Air Shutter Adjusting Screw

Figure 10

Airflow Switch

The airflow switch is set at the factory for proper operation. No adjustment necessary.

The airflow switch operation may be affected by shipping wire tie still in place, lack of make-up air, or an obstruction in the exhaust duct. These should be checked and the required corrective action taken.

WARNING

The tumble dryer must not be operated if the airflow switch does not operate properly. Faulty airflow switch operation may cause an explosive gas mixture to collect in the tumble dryer.

W072R1

IMPORTANT: Airflow switch vane must remain closed during operation. If it opens and closes during the drying cycle, this indicates insufficient airflow through the tumble dryer. If switch remains open, or pops open and closed during the cycle, the heating system will shut off. The cylinder and fan will continue to operate even though the airflow switch is indicating insufficient airflow.

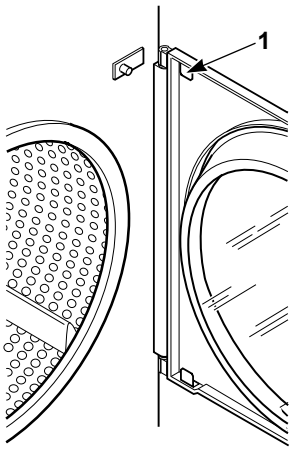
NOTE: To properly mount the airflow switch bracket, or in case of a load not drying, the airflow switch bracket may need to be checked for proper alignment. Be sure the locator pins are securely in their respective holes before tightening the bracket mounting screws. This will assure proper alignment of the airflow switch arm in the channel of the airflow switch bracket and prevent binding of the arm.

Loading Door Switch

The door switch should be adjusted so the cylinder stops when door is opened 0.79 inches [20 mm]. This switch is a normally open switch and is closed by the switch actuator when the door is closed. If adjustment is required, refer to *Figure 11* and proceed as follows:

1. Close door and start tumble dryer, slowly open loading door. Cylinder and heat system should shut off when door is open 0.79 inches [20 mm].
2. Slowly close the loading door. When door is 0.79 inches [20 mm] or less from being fully closed, the door switch actuating bracket (located on the door) should depress the button and the switch arm with an audible “click.”
3. If the actuating bracket does not operate the switch at the appropriate door closure, bend the actuating switch arm in or out to achieve proper actuation.

25-55 Series



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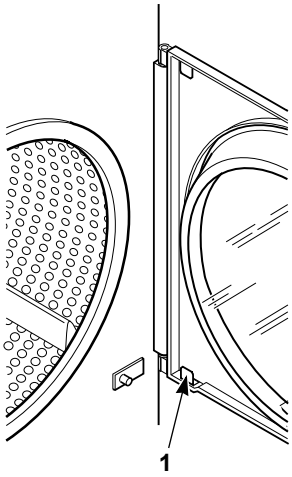
50-75 Series



TMB2630N_SVG

1. Switch Actuator

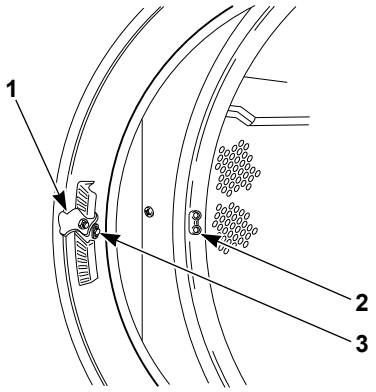
Figure 11

Loading Door Catch (120 and 170 Series Models)

The door catch must be adjusted to have sufficient tension to hold loading door closed against force of load tumbling against it. Proper adjustment is when 8-15 pounds [35.6N - 66.7N] pull is required to open door.

If adjustment is required, refer to *Figure 12* and proceed as follows:

1. Open door.
2. Loosen acorn nut.
3. Turn door strike screw in or out as required.
4. Tighten acorn nut.



T048I_SVG

1. Door Latch
2. Door Catch
3. Acorn Nut

Figure 12

Aligning Door Strike

If the door acorn nut is breaking or the door catch is prematurely wearing (refer to *Loading Door Switch* or *Loading Door Catch (120 and 170 Series Models)*), a door adjustment may be necessary to align the two striking surfaces.

1. Visually check door strike to catch position to determine if door is striking low or high.
2. Make sure the door frame to the tumble dryer hinge mounting screws are secure.
3. To adjust the strike position slightly, loosen both hinge hex bolts until the door frame can be moved. If the door is striking low, lift up on the door and while maintaining pressure tighten both hinge bolts. If the door is striking high, push down on the door and while maintaining pressure tighten both hinge bolts. Re-check strike position and repeat until position is correct.

Manual Resettable Thermostat

NOTE: The manual resettable thermostat is located as follows: 025-030-035-055 - inside access panel on rear of machine near blower motor. T30-T45 - on blower housing top surface behind rear guard.

NOTE: The manual resettable thermostat is located on rear panel below drive motor.

If thermostat trips, contact a qualified service technician.

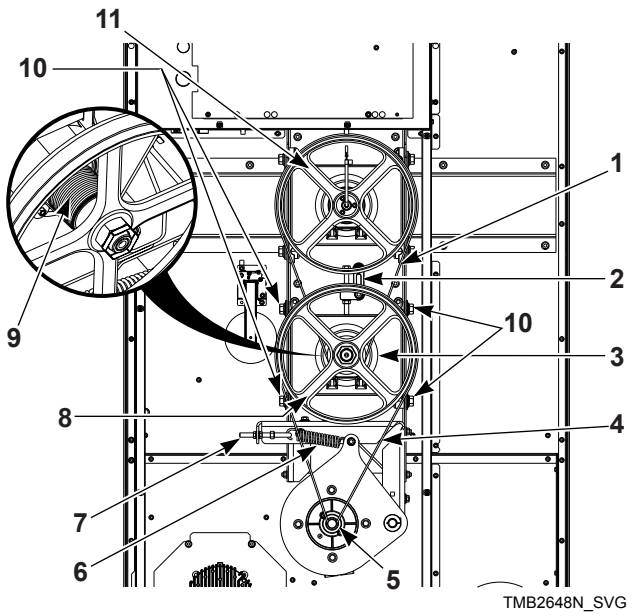
Belt Drive

The drive assembly consists of a motor, four pulleys, two belts, idler housing, upper belt adjustment block/bolt/jamnut, lower belt adjustment eyebolt and a spring.

The pulley diameters are sized to produce a cylinder speed of 38-41 RPM.

The idler housing pulleys are used for speed reduction as well as a means of adjusting belt tension. The idler housing is attached to the cabinet rear center braces. The cabinet rear center braces have vertically slotted holes allowing up and down movement of the idler housing for belt adjustment.

Refer to *Figure 13* .



1. Upper Belt (measure frequency at mid-span)
2. Upper Belt Adjustment Block/Bolt/Jamnut
3. Idler Housing
4. Lower Belt (measure frequency at mid-span)
5. Motor Pulley
6. Spring
7. Lower Belt Adjustment Eyebolt
8. Idler Large Pulley
9. Idler Small Pulley
10. Idler Housing Mounting, Screws and Washers
11. Upper Basket Pulley

Figure 13

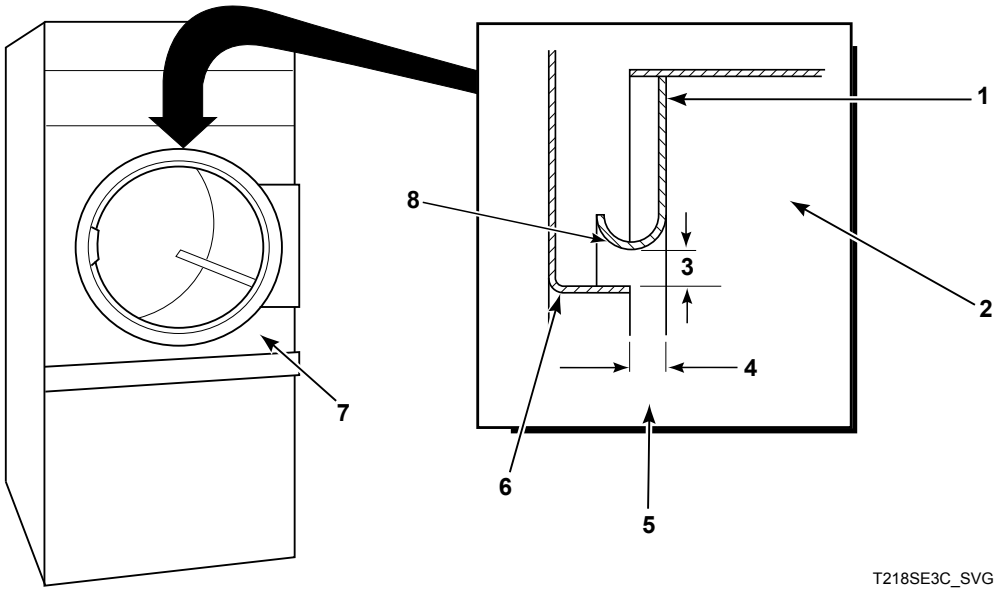
Cylinder Clearance

The clearance between the cylinder rim and front panel must be adjusted so the cylinder is centered within the front panel opening when the cylinder is fully loaded and is turning. However, the adjustment should be made when the cylinder is empty.

1. Open loading door and check the gap between the center of the front panel top flange and the cylinder rim. Proper adjustment is when the gap is 1/2 - 3/4 inch [12.7 - 19.05 mm]. Refer to *Figure 14* .
2. Remove drive guard.
3. Loosen the four trunnion housing bolts.
4. Loosen the locknuts on the trunnion housing adjusting bolts.
5. Turn the adjusting bolts in or out as necessary to obtain proper clearance between cylinder rim and front panel.

   NOTE: Turning the adjusting bolts clockwise will raise the cylinder and turning them counterclockwise will lower the cylinder. Turn both bolts evenly to adjust top and bottom clearance. Turn one or the other adjusting bolt in or out to adjust side clearance.
6. After the cylinder is properly adjusted, tighten the adjusting bolt locknuts and the four trunnion housing bolts.
7. Install the belt guard removed in Step 2.

   NOTE: If adjusting the trunnion housing fails to correct the clearance, the problem is probably due to a worn trunnion shaft or bearings.



1. Inside Front of Cylinder
2. Cylinder Rim/Front Panel Flange Clearance
3. 1/2-3/4 inch [12.7-19.05 mm]
4. 9/32 inch ± 1/32 inch [0.281 mm ± 0.031 mm]
5. Fore/Aft Clearance
6. Front Panel Flange (Top Shown)
7. Front Panel
8. Cylinder Rim

Figure 14

Cleaning Electronic Coin Drop

The electronic coin drop should be cleaned once a year. Clean the drop more often if it is exposed to high levels of residue or lint build-up. Follow the instructions below for cleaning the coin drop.

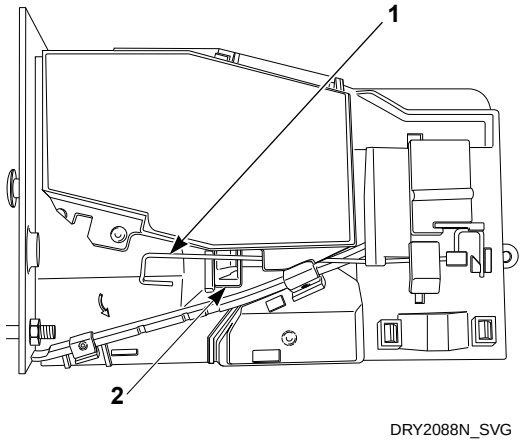
IMPORTANT: Never use abrasives or solvents to clean the drop which may damage the plastic material.

Coin Drops with Old-Style Spring

Refer to *Figure 15* .

1. Disconnect electrical power to machine and drop.
2. Remove coin drop from machine.
3. Open cover of coin drop.
   a. Move spring downward until cover catch is free. Refer to *Figure 15* .

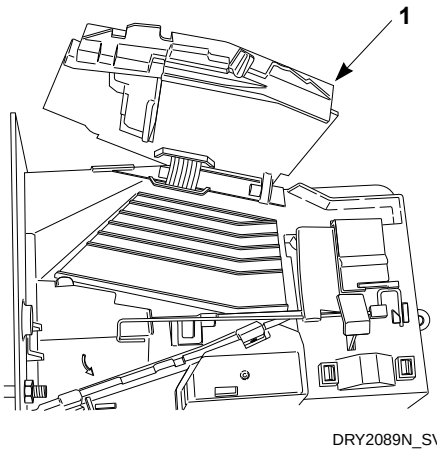
      NOTE: Do not lift or overbend the spring in any direction.



1. Spring
2. Catch

Figure 15

   b. Open cover for coin drop. Refer to *Figure 16* .



1. Cover

Figure 16

4. Clean the coin path with a soft brush and wipe exposed surfaces with an alcohol moistened cloth. Refer to *Figure 17* .

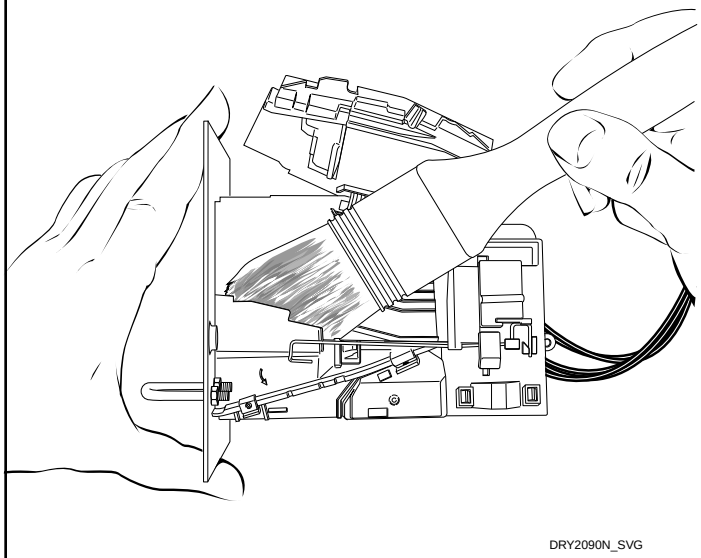
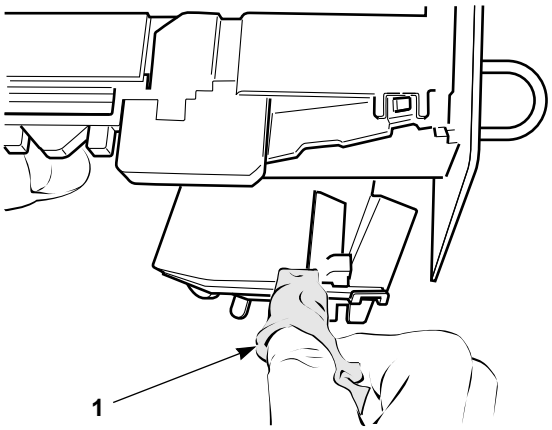


Figure 17

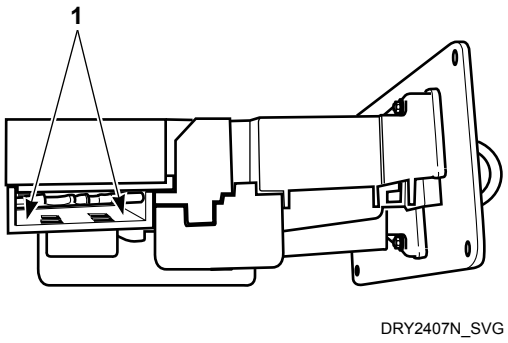
5. Clean residue from coin rail with an alcohol moistened cloth. Refer to *Figure 18* .



1. Alcohol Moistened Cloth

Figure 18

6. Clean light sensors with a soft brush or air spray duster. Refer to *Figure 19* .



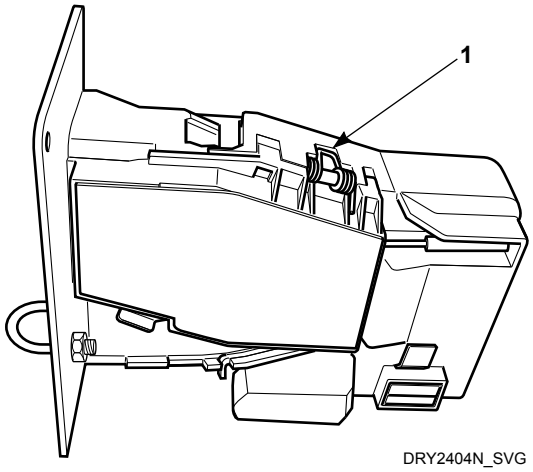
1. Light Sensors

Figure 19

7. Close cover for coin drop.
8. Move spring back over cover catch.
9. Reinstall coin drop into machine.
10. Reconnect electrical power to machine and drop.
11. Add a coin to drop to verify that coin drop is operating properly and that electrical connection is working properly.

Coin Drops with New-Style Spring

Refer to *Figure 20* .



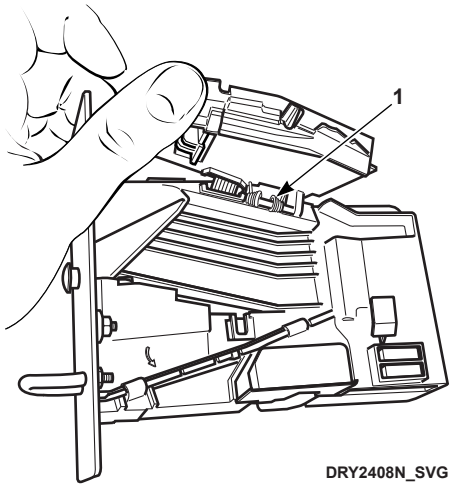
1. Spring

Figure 20

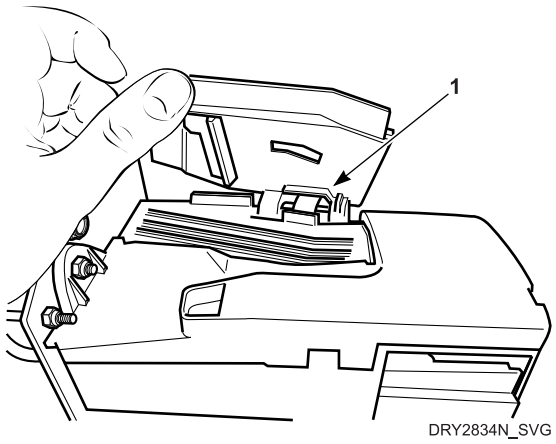
1. Disconnect electrical power to machine and drop.
2. Remove coin drop from machine.
3. Open cover of coin drop. Refer to *Figure 21* .

   NOTE: Do not overbend the spring by opening cover too far.

Pre-2018



2018 and Later

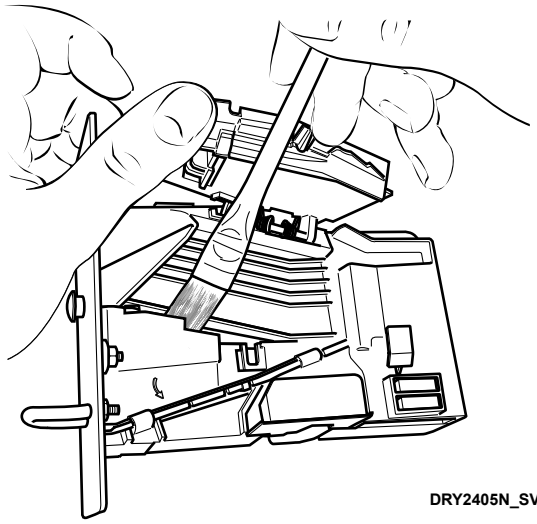


1. Spring

Figure 21

4. Clean the coin path with a soft brush and wipe exposed surfaces with an alcohol moistened lint-free cloth. Refer to *Figure 22* .

Pre-2018



2018 and Later

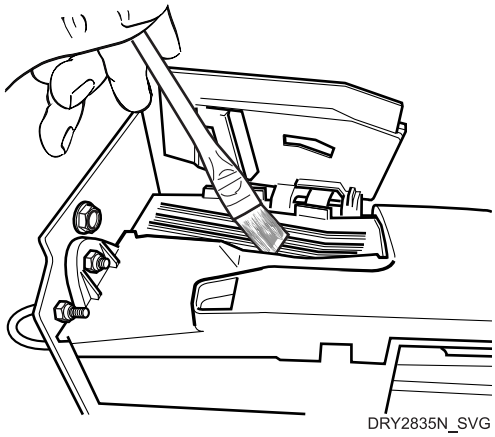
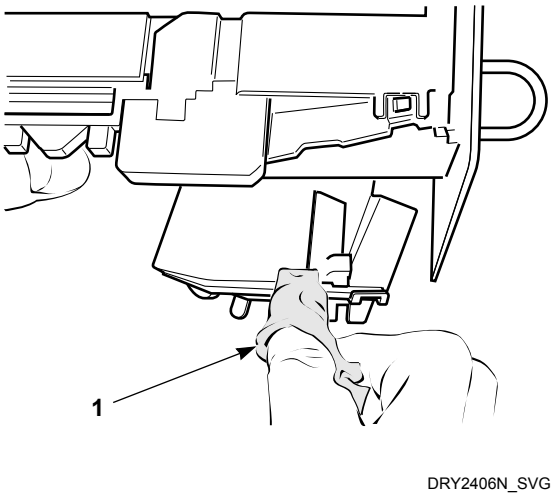


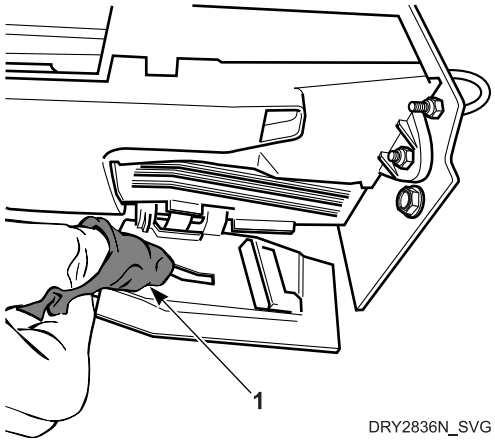
Figure 22

5. Clean residue from coin rail with an alcohol moistened lint-free cloth. Refer to *Figure 23* .

Pre-2018



2018 and Later



1. Alcohol Moistened Cloth

Figure 23

6. Clean residue from coin rail and pendulum inside flap with an alcohol-moistened soft brush. Refer to *Figure 24* .

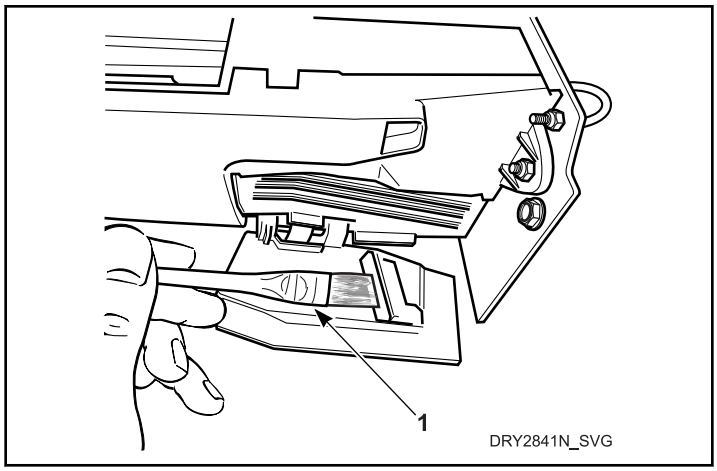
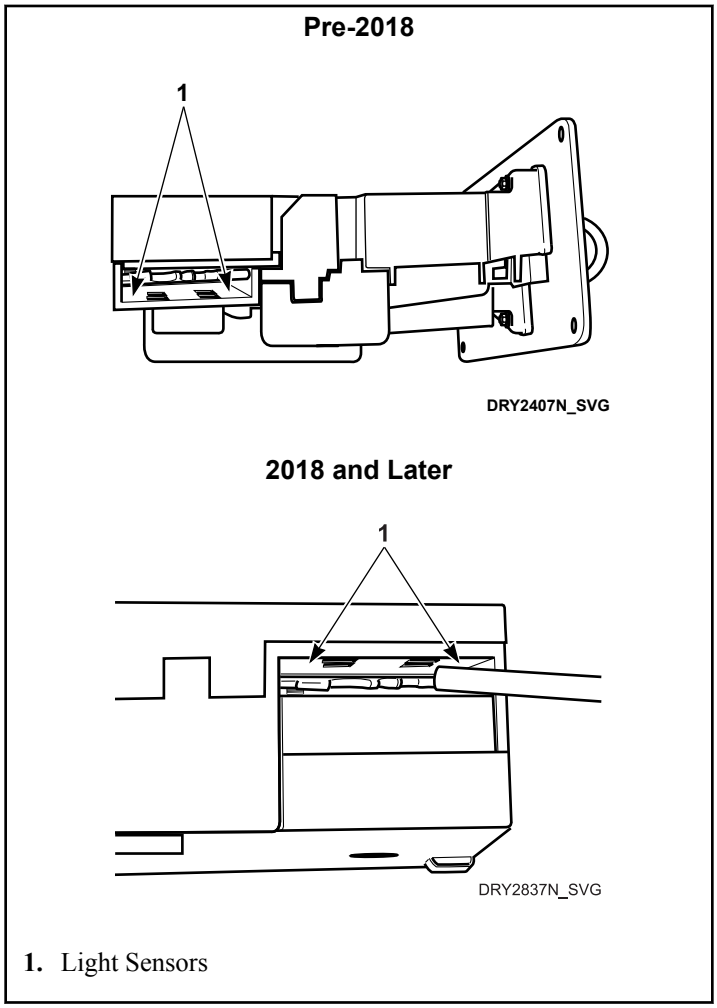


Figure 24

7. Clean light sensors with a soft brush or air spray duster. Refer to *Figure 25* .



1. Light Sensors

Figure 25

8. Close cover for coin drop.
9. Reinstall coin drop into machine.
10. Reconnect electrical power to machine and drop.
11. Add a coin to drop to verify that coin drop is operating properly and that electrical connection is working properly.

Error Codes for F Control

Error Codes

NOTE: Fatal Errors will show `outoFordr` along with the error on the display.

Following is a list of possible error codes for an electronic control.

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
`E AF`	Airflow Switch Bounces	Inspect lint screen and ductwork. Cycle power to machine (power down, then power up).
`E Co`	SCI Communications Error	Communication failure. Power down, power up, check connections and try again. If error persists, replace control or output board.
`E dS`	Brownout/Voltage Configuration	Unexpected supply voltage. Check wiring at input of machine to make sure the correct input voltage is supplied to the machine. Check the harness connections between the user control and the output board. If the user control was replaced, set dipswitch #1 to the same setting as the previous control. If reworking the machine to use a different supply voltage, the dip switch #1 setting may need to be changed. If the dip switch #1 setting is changed, power down, power up and try again.
`E Ht`	Machine Did Not Reach Expected Temperature	The ignition control has power, but a flame was not sensed after the programmed amount of retries. Be sure that gas is turned on. If problem persists, troubleshoot the ignition circuit. (Igniter, Cable, Ignition Control Module.)
`E id`	Board ID Error	Incorrect replacement control. Replace user control or output board with correct part. The board ID error will also be set if the wrong drive motor, fan motor or ignition control are connected. The display will show `dr uE`, `F An` or `i CM`. Check machine configurations and connect correct drive motor, fan motor or ignition control.
`E nr`	Drive/Output Board Not Ready	Hardware failure. Replace output board.

Table 1 *continues...*

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
E oP	Open Thermistor Error	Remove any lint build-up around thermistor. If problem persists, replace control or thermistor.
E SH	Shorted Thermistor Error	Remove any lint build-up around thermistor. If problem persists, replace control or thermistor.
EA F1	Airflow Switch Failed to Open	Inspect lint screen and ductwork. Wipe clean and completely dry off the airflow switch vane as well as the mating material. Once error is cleared, control will go back to previous mode of operation.
EA F2	Airflow Switch Failed to Close	If machine is newly installed, make sure shipping tie has been removed from airflow switch. Inspect lint screen and ductwork. Cycle power to machine (power down, then power up).
EC Ab	Cabinet Limit Cycles	Remove any lint build-up around thermostat. If problem persists, replace control or thermostat.
E dC, E FC	Drive and Fan Communication Error	Communication failure. Power down for at least 1 minute, power up, check connections between I/O board and Drive/Fan and try again. If error persists, replace tumbler I/O board or motor with which the error occurred (Fan or Drive).
E iC	ICM Communication Error	Communication failure. Power down, power up, check connections and try again. If error persists, replace tumbler I/O board or ignition control.
EF 01, Ed 01 (Tumble Dryer Design 6)	Communication Error	Check wiring between I/O board and inverter.
EF 02, Ed 02	Fan or Cylinder Motor High DC Bus Error	Voltage to fan/cylinder is too high. Unpower machine to clear error. Check voltage input and check wiring to machine. Replace fan/cylinder motor if error persists.
EF 03, Ed 03 (Tumble Dryer Design 6)	Motor Not Connected Error	Check motor wiring.
EF 04, Ed 04	Fan or Cylinder Motor Stall Error	Check that fan or cylinder turns freely, make sure machine is not overloaded. Error can be cleared by any key press.

Table 1 *continues...*

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
EF 05, Ed 05 (Tumble Dryer Designs 3 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Fan or Cylinder Motor Coherence Check Error	Check that fan wheel spins freely. Cylinder error can be caused by an unbalanced load. Try to redistribute the load and lengthen the reversing pause time if reversing is enabled. Error can be cleared by any key press.
EF 05, Ed 05 (Tumble Dryer Design 6)	Back EMF Error	Check motor wiring.
EF 06, Ed 06	Fan or Cylinder Motor IPM Overtemp Error	IPM temperature is detected too high. Check that heat sink on the motor(s) is clear of lint or any other obstruction and check that cylinder spins freely when empty. Design 6, clean inverter drive compartment. Replace motor(s) or inverter drive if error persists.
EF 07, Ed 07 (Tumble Dryer Design 6)	Drive Enable Error	Check the inverter drive enable wiring between H6 header on I/O board and inverter drive.
EF 08, Ed 08 (Tumble Dryer Designs 3 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Fan or Cylinder Motor Current Limit Error	Check that fan/cylinder turns freely, make sure machine is not overloaded. Replace fan/cylinder motor if error persists.
EF 09, Ed 09 (Tumble Dryer Designs 3 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Fan or Cylinder Motor 460V Drive Overcurrent	Check that fan/cylinder turns freely, make sure machine is not overloaded. Replace fan/cylinder motor if error persists.
EF 10, Ed 10	Fan or Cylinder Motor Low DC Bus Error	Voltage to motor(s) or inverter drive is too low. For 120V machines, make sure wire harness jumper is connected which connects pins 1 and 2 of the 5-pin connector on the motor. Check voltage input and check wiring to machine. Replace motor(s) or inverter drive if error persists.
EF 11, Ed 11	Fan or Cylinder Motor Overload Error	Check that fan or cylinder turns freely, make sure machine is not overloaded. Error can be cleared by any key press.
EF 12, Ed 12 (Tumble Dryer Designs 3 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Fan or Cylinder Motor Microcontroller Fault	Try to power down and power up the machine to clear the error. If error persists, replace fan/cylinder motor.
EF 12, Ed 12 (Tumble Dryer Design 6)	Motor System Fail	Check that correct inverter drive is installed. Check for correct configuration of front end control.
Ed 13 (Tumble Dryer Designs 3 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Cylinder Motor Hall Sensor Failure	Power down machine to clear error.

Table 1 *continues...*

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
EF 13, Ed 13 (Tumble Dryer Design 6)	Setup Compatibility Failure	Check that correct inverter drive is installed. Check for correct configuration of front end control.
EF 14, Ed 14 (Tumble Dryer Design 6)	Power Fail Dangerous Error	Check voltage to machine and voltage to inverter drive.
EF 15, Ed 15 (Tumble Dryer Design 6)	Open Phase Error	Check motor wiring. Replace motor if error persists.
EF 16, Ed 16 (Tumble Dryer Design 6)	Power Fail NO Dangerous Error	Check voltage to machine and voltage to inverter drive.
EF 18, Ed 18 (Tumble Dryer Design 6)	Fatal IPM Over Current Shunt Error	Check motor wiring. Replace motor if error persists.
EF 19, Ed 19 (Tumble Dryer Design 6)	Fatal Hardware I2T Over Current Error	Check for motor overload or blocking condition which could be caused from lint buildup or blocked fan, overwet load or mechanical issues causing cylinder sticking.
EF 21, Ed 21 (Tumble Dryer Design 6)	Speed Limitation Error	Check that machine is configured to the correct machine size.
EF 22, Ed 22 (Tumble Dryer Design 6)	Inrush Pin Hardware On/Off Fail	Cycle power to machine. Replace inverter drive if error persists.
EF 23, Ed 23 (Tumble Dryer Design 6)	Fatal IPM Temperature Acquisition Error (NTC is in short circuit or open)	Cycle power to machine. Replace inverter drive if error persists.
EF 24, Ed 24 (Tumble Dryer Design 6)	ADC Current Acquisition Fail	Cycle power to machine. Replace inverter drive if error persists.
EF 25, Ed 25 (Tumble Dryer Design 6)	VBUS Acquisition Fail	Cycle power to machine. Replace inverter drive if error persists.
EF 26, Ed 26 (Tumble Dryer Design 6)	Fault IPM Circuit Fail	Cycle power to machine. Replace inverter drive if error persists.
EF t1	Optional Heat Output Shorted	Check wiring to valve/motor connected to output, replace valve/motor.
EF t2	Motor Relay Enable Output Shorted	Check motor power relay connected between, if error persists replace relay.
EF t3	Spare Relay Enable Ouptut Shorted	Check relay powered by KM2 output, if error persists replace relay.
EF t4	Auxiliary Relay 1 Ouput Shorted Error	Check relay powered by Aux 1 output, if error persists replace relay.
EF t5	Run Relay Output Shorted Error	Check Relay powered by the Run output, if error persists replace relay.

Table 1 *continues...*

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
EF t6	Gas Valve 1 Output Shorted Error	Check gas valve 1, if error persists replace valve.
EF t7	Gas Valve 2 Output Shorted Error	Check gas valve 2, if error persists replace valve.
E9 01	ICM Lockout Alarm Active	Check that the gas is turned on and that the ignition circuit functions. Also check that the gas valve is operational. This error needs to be manually reset. To reset, open service door and press start button. After 5 seconds error should be cleared.
E9 02	ICM Alarm Reset Shorted Error	Check wiring between the I/O board and the ignition control. Power down and power up machine to clear the error.
E9 03	ICM Hardware Failure Error	Ignition control has detected a hardware fault. Power down and power machine to clear error. Replace ignition control if error persists.
Eo 05	I/O Board 24VDC Supply Over Voltage Error	Check machine input voltage. Power down and power up the machine to clear error. If error persists, replace I/O board.
Eo 06	I/O Board 24VDC Supply Under Voltage Error	Check machine input voltage. Check for pinched control wires. Clear any debris or lint from the I/O board. Power down and power up the machine to clear error. If error persists, replace I/O board.
Eo 07	Heat Output Shorted Error	Power down machine to clear error, power up machine, try heating again. If error persists, replace I/O board.
Eo 32	Mosfet Enabled Shorted Error	Power down machine to clear error, power up machine, try running a cycle. If error persists, replace I/O board.
EN rL	Manual Reset Limit Error	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint buildup around the thermostat. Limit needs to be manually reset and machine needs to be powered down to clear the error. If problem persists, replace thermostat.

Table 1 *continues...*

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
E5 L1	Stove Limit 1 Cycle	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint buildup around the thermostat. If problem persists, replace thermostat.
E5 L2	Stove Limit 2 Cycle	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint buildup around the thermostat. If problem persists, replace thermostat.

Table 1

Error Codes for B Control

Error Codes

Following is a list of possible error codes for an electronic control. Errors beginning with EC refer to card reader errors. All other errors refer to machine errors.

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
Err	Coin Error	Invalid coin pulse or inoperative coin sensor. Check coin drop area and remove obstructions. If error persists, tampering may have occurred. Evaluate security procedures.
E AF	Airflow Switch Bounces	Inspect lint screen, ductwork and make-up air. Cycle power to machine (power down, then power up).
E bb	Broken Belt Error	Check belt and pulleys for issues.
E Co	SCI Communications Error	Communication failure. Power down, power up, check connections and try again. If error persists, replace control or output board.
E dS	Brownout/Voltage Configuration	Unexpected supply voltage. Check wiring at input of machine to make sure the correct input voltage is supplied to the machine. Check the harness connections between the user control and the output board. If the user control was replaced, set dipswitch #1 to the same setting as the previous control. If reworking the machine to use a different supply voltage, the dip switch #1 setting may need to be changed. If the dip switch #1 setting is changed, power down, power up and try again.
E Ht	Machine Did Not Reach Expected Temperature	The ignition control has power, but a flame was not sensed after the programmed amount of retries. Be sure that gas and gas valve are turned on. If problem persists, troubleshoot the ignition circuit. (Igniter, Cable, Ignition Control Module.) For electric machines, check wiring to auxiliary switch on electric contactors and make sure contactors work properly.
E id	Board ID Error	Incorrect replacement control. The display will show otPt. Replace user control or output board with correct part. The board ID error will also be set if the wrong drive motor, fan motor or ignition control are connected. The display will show dr iu, FAn or iCn. Check machine configurations and connect correct drive motor, fan motor or ignition control.
E nr	Drive/Output Board Not Ready	Hardware failure. Replace output board.
E oP	Open Thermistor Error	Remove any lint build-up around thermistor and check wire connection. If problem persists, replace control or thermistor.
E SH	Shorted Thermistor Error	Remove any lint build-up around thermistor. If problem persists, replace control or thermistor.
EAF 1	Airflow Switch Failed to Open	Inspect lint screen and ductwork. Wipe clean and completely dry off the airflow switch vane as well as the mating material. Once error is cleared, control will go back to previous mode of operation.

Table 2 *continues...*

Error Codes		
Dis-play	**Description**	**Cause/ Corrective Action**
EAF2	Airflow Switch Failed to Close	If machine is newly installed, make sure shipping tie has been removed from airflow switch. Inspect lint screen and ductwork. Cycle power to machine (power down, then power up).
EC 11	No Card Reader Initialization	Communication is valid, but there is no card reader initialization. Power down, power up and try again.
EC 18	No Communication	Card reader initialized, communication lost. Power down, power up and try again. If error persists, replace control or card reader.
EC 19	No Card Reader Communication and No Card Reader Initialization	Communication failure. Power down, power up, check connections and try again. If error persists, replace control or card reader.
ECAb	Cabinet Limit Cycle	Remove any lint build-up around thermostat. If problem persists, replace control or thermostat. Check thermistor function. Error can also be caused by running no load or a small load.
E dC, E FC	Drive and Fan Communication Error	Communication failure. Power down for at least 1 minute, power up, check connections between I/O board and Drive/Fan and try again. If error persists, replace tumbler I/O board or motor with which the error occurred (Fan or Drive).
E iC	ICM Communication Error	Communication failure. Power down, power up, check connections and try again. If error persists, replace tumbler I/O board or ignition control.
Ed 04	Drive Motor Stall Error	Check that cylinder turns freely, make sure machine is not overloaded. Error can be cleared by any key press.
Ed 05	Drive Motor Coherence Check Error	Can be caused by an unbalanced load. Try to redistribute the load and lengthen the reversing pause time if reversing is enabled. Error can be cleared by any key press.
Ed 11	Drive Motor Overload Error	Check that cylinder turns freely, make sure machine is not overloaded. Error can be cleared by any key press.
Ed 13	Drive Motor Hall Sensor Failure	Power down machine to clear error.
EFAn, 02; Ed02	Fan and Drive Motor High DC Bus Error	Voltage to Fan/Drive is too high. Unpower machine to clear error. Check voltage input and check wiring to machine. Replace fan/drive if error persists.
EFAn, 04	Fan Motor Stall Error	Check that blower wheel spins freely. Error can be cleared by any key press.
EFAn, 05	Fan Motor Coherence Check Error	Check that blower wheel spins freely. Error can be cleared by any key press.
EFAn, 06; Ed06	Fan and Drive Motor IPM Overtemp Error	IPM temperature is detected too high. Check that heat sink on the fan/drive is clear of lint or any other obstruction and check that cylinder spins freely when empty. Replace Fan/Drive if error persists.

Table 2 *continues...*

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
EFAn, 08; Ed08	Fan and Drive Motor Current Limit Error	Check that cylinder/fan turns freely, make sure machine is not overloaded. Replace fan/drive if error persists.
EFAn, 09; Ed09	Fan and Drive Motor 460V Drive Overcurrent	Check that cylinder/fan turns freely, make sure machine is not overloaded. Replace drive/fan if error persists.
EFAn, 10; Ed 10	Fan and Drive Motor Low DC Bus Error	Voltage to Fan/Drive is too low. For 120V machines, make sure wire harness jumper is connected which connects pins 1 and 2 of the 5-pin connector on the motor. Check voltage input and check wiring to machine. Replace fan/drive if error persists.
EFAn, 12; Ed 12	Fan and Drive Motor Microcontroller Fault	Try to power down and power up the machine to clear the error. If error persists replace fan/drive.
EFt 1	Optional Heat Output Shorted	Check wiring to valve/motor connected to output, replace valve/motor.
EFt2	Motor Relay Enable Output Shorted	Check motor power relay connected between, if error persists replace relay.
EFt3	Spare Relay Enable Ouptut Shorted	Check relay powered by KM2 output, if error persists replace relay.
EFt4	Auxiliary Relay 1 Ouput Shorted Error	Check relay powered by Aux 1 output, if error persists replace relay.
EFt5	Run Relay Output Shorted Error	Check Relay powered by the Run output, if error persists replace relay.
EFt6	Gas Valve 1 Output Shorted Error	Check gas valve 1, if error persists replace valve.
EFt7	Gas Valve 2 Output Shorted Error	Check gas valve 2, if error persists replace valve.
E iCn	ICM Lockout Alarm Active	Check that the gas is turned on and that the ignition circuit functions. Also check that the gas valve is operational. This error needs to be manually reset. To reset, open service door and press start button. After 5 seconds error should be cleared.
E9 1	ICM False Flame Error	Press any key, open the loading door or cycle power to machine.
E9 2	ICM Alarm Reset Shorted Error	Check wiring between the I/O board and the ignition control. Power down and power up machine to clear the error.
E9 3	ICM Hardware Failure Error	Ignition control has detected a hardware fault. Power down and power machine to clear error. Replace ignition control if error persists.
Eo05	I/O Board 24VDC Supply Over Voltage Error	Check machine input voltage. Power down and power up the machine to clear error. If error persists, replace I/O board.
Eo06	I/O Board 24VDC Supply Under Voltage Error	Check machine input voltage. Check for pinched control wires. Clear any debris or lint from the I/O board. Power down and power up the machine to clear error. If error persists, replace I/O board.

Table 2 *continues...*

Error Codes		
Dis-play	**Description**	**Cause/ Corrective Action**
E0 07	Heat Output Shorted Error	Power down machine to clear error, power up machine, try heating again. If error persists, replace I/O board.
E0 32	Mosfet Enabled Shorted Error	Power down machine to clear error, power up machine, try running a cycle. If error persists, replace I/O board.
E rL	Manual Reset Limit Error	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint build-up around the thermostat. Check thermistor and cabinet limit function. Limit needs to be manually reset and machine needs to be powered down to clear the error. If problem persists, replace thermostat.
EnHH	Machine ID Chip Error	Communication failure. Power down, power up and try again. If error persists, check connection between user control and Machine ID chip, or try replacing the user control or the Machine ID chip.
ESL 1	Stove Limit 1 Cycle	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint build-up around the thermostat. Check make-up air and gas pressure. If problem persists, replace thermostat.
ESL2	Stove Limit 2 Cycle	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint build-up around the thermostat. Check make-up air and gas pressure. If problem persists, replace thermostat.

Table 2

Error Codes for N Control - Vend

Error Codes

Following is a list of possible error codes for an electronic control. Errors beginning with E , refer to external device Infra-red communication errors. Errors beginning with EC refer to card reader errors. All other errors refer to machine errors.

Display	Description	Cause/ Corrective Action
ALArM	Break-In Alarm Error	Check the service door or coin vault switches.
Coin, Error	Coin Error	Invalid coin pulse or inoperative coin sensor. Check coin drop area and remove obstructions. If error persists, tampering may have occurred. Evaluate security procedures.
E AF	Airflow Switch Bounces	Inspect lint screen, ductwork and make-up air. Cycle power to machine (power down, then power up).
E Co	SCI Communications Error	Communication failure. Power down, power up, check connections and try again. If error persists, replace control or output board.
E dS	Brownout/Voltage Configuration	Unexpected supply voltage. Check wiring at input of machine to make sure the correct input voltage is supplied to the machine. Check the harness connections between the user control and the output board. If the user control was replaced, set dipswitch #1 to the same setting as the previous control. If reworking the machine to use a different supply voltage, the dip switch #1 setting may need to be changed. If the dip switch #1 setting is changed, power down, power up and try again.
E HEAt	Machine Did Not Reach Expected Temperature	The ignition control has power, but a flame was not sensed after the programmed amount of retries. Be sure that gas and gas valve are turned on. If problem persists, troubleshoot the ignition circuit. (Igniter, Cable, Ignition Control Module.) For electric machines, check wiring to auxiliary switch on electric contactors and make sure contactors work properly.

Table 3 *continues...*

Display	Description	Cause/ Corrective Action
E id	Board ID Error	Incorrect replacement control. The display will show oUtPUt. Replace user control or output board with correct part. The board ID error will also be set if the wrong drive motor, fan motor or ignition control are connected. The display will show dr iuE, FAn or iGn. Check machine configurations and connect correct drive motor, fan motor or ignition control.
E nr	Drive/Output Board Not Ready	Hardware failure. Replace output board.
E oP	Open Thermistor Error	Remove any lint build-up around thermistor and check wire connection. If problem persists, replace control or thermistor.
E SH	Shorted Thermistor Error	Remove any lint build-up around thermistor. If problem persists, replace control or thermistor.
EAF 1	Airflow Switch Failed to Open	Inspect lint screen and ductwork. Wipe clean and completely dry off the airflow switch vane as well as the mating material. Once error is cleared, control will go back to previous mode of operation.
EAF2	Airflow Switch Failed to Close	If machine is newly installed, make sure shipping tie has been removed from airflow switch. Inspect lint screen and ductwork. Cycle power to machine (power down, then power up).
EC 11	No Card Reader Initialization	Communication is valid, but there is no card reader initialization. Power down, power up and try again.
EC 18	No Communication	Card reader initialized, communication lost. Power down, power up and try again. If error persists, replace control or card reader.
EC 19	No Card Reader Communication and No Card Reader Initialization	Communication failure. Power down, power up, check connections and try again. If error persists, replace control or card reader.
ECAb	Cabinet Limit Cycle	Remove any lint build-up around thermostat. If problem persists, replace control or thermostat. Check thermistor function. Error can also be caused by running no load or a small load.

Table 3 *continues...*

Display	Description	Cause/ Corrective Action
ECodru, ECoFAn E dC, E FC (Factory Test only appears as 4-digit display)	Drive and Fan Communication Error	Communication failure. Power down for at least 1 minute, power up, check connections between I/O board and Drive/Fan and try again. If error persists, replace tumbler I/O board or motor with which the error occurred (Fan or Drive).
ECo iCM E iC (Factory Test only appears as 4-digit display)	ICM Communication Error	Communication failure. Power down, power up, check connections and try again. If error persists, replace tumbler I/O board or ignition control.
EFAn01, Ed 01 (Design 6)	Communication Error	Check wiring between I/O board and inverter.
EFAn02, Ed 02	Fan or Cylinder Motor High DC Bus Error	Voltage to fan/cylinder is too high. Unpower machine to clear error. Check voltage input and check wiring to machine. Replace fan/cylinder motor if error persists.
EFAn03, Ed 03 (Design 6)	Motor Not Connected Error	Check motor wiring.
EFAn04, Ed 04	Fan or Cylinder Motor Stall Error	Check that fan or cylinder turns freely, make sure machine is not overloaded. Error can be cleared by any key press.
EFAn05, Ed 05 (Designs 3 and 5)	Fan or Cylinder Motor Coherence Check Error	Check that fan wheel spins freely. Cylinder error can be caused by an unbalanced load. Try to redistribute the load and lengthen the reversing pause time if reversing is enabled. Error can be cleared by any key press.
EFAn05, Ed 05 (Design 6)	Back EMF Error	Check motor wiring.
EFAn06, Ed 06	Fan or Cylinder Motor IPM Overtemp Error	IPM temperature is detected too high. Check that heat sink on the motor(s) is clear of lint or any other obstruction and check that cylinder spins freely when empty. Design 6, clean inverter drive compartment. Replace motor(s) or inverter drive if error persists.
EFAn07, Ed 07 (Design 6)	Drive Enable Error	Check the inverter drive enable wiring between H6 header on I/O board and inverter drive.
EFAn08, Ed 08 (Designs 3 and 5 only)	Fan or Cylinder Motor Current Limit Error	Check that fan/cylinder turns freely, make sure machine is not overloaded. Replace fan/cylinder motor if error persists.
EFAn09, Ed 09 (Designs 3 and 5 only)	Fan or Cylinder Motor 460V Drive Overcurrent	Check that fan/cylinder turns freely, make sure machine is not overloaded. Replace fan/cylinder motor if error persists.

Table 3 *continues...*

Display	Description	Cause/ Corrective Action
EFAn 10, Ed 10	Fan or Cylinder Motor Low DC Bus Error	Voltage to motor(s) or inverter drive is too low. For 120V machines, make sure wire harness jumper is connected which connects pins 1 and 2 of the 5-pin connector on the motor. Check voltage input and check wiring to machine. Replace motor(s) or inverter drive if error persists.
EFAn 11, Ed 11	Fan or Cylinder Motor Overload Error	Check that fan or cylinder turns freely, make sure machine is not overloaded. Error can be cleared by any key press.
EFAn 12, Ed 12 (Designs 3 and 5)	Fan or Cylinder Motor Microcontroller Fault	Try to power down and power up the machine to clear the error. If error persists, replace fan/cylinder motor.
EFAn 12, Ed 12 (Design 6)	Motor System Fail	Check that correct inverter drive is installed. Check for correct configuration of front end control.
Ed 13 (Designs 3 and 5)	Cylinder Motor Hall Sensor Failure	Power down machine to clear error.
EFAn 13, Ed 13 (Design 6)	Setup Compatibility Failure	Check that correct inverter drive is installed. Check for correct configuration of front end control.
EFAn 14, Ed 14 (Design 6)	Power Fail Dangerous Error	Check voltage to machine and voltage to inverter drive.
EFAn 15, Ed 15 (Design 6)	Open Phase Error	Check motor wiring. Replace motor if error persists.
EFAn 16, Ed 16 (Design 6)	Power Fail NO Dangerous Error	Check voltage to machine and voltage to inverter drive.
EFAn 18, Ed 18 (Design 6)	Fatal IPM Over Current Shunt Error	Check motor wiring. Replace motor if error persists.
EFAn 19, Ed 19 (Design 6)	Fatal Hardware I2T Over Current Error	Check for motor overload or blocking condition which could be caused from lint buildup or blocked fan, overwet load or mechanical issues causing cylinder sticking.
EFAn2 1, Ed 21 (Design 6)	Speed Limitation Error	Check that machine is configured to the correct machine size.
EFAn22, Ed 22 (Design 6)	Inrush Pin Hardware On/Off Fail	Cycle power to machine. Replace inverter drive if error persists.
EFAn23, Ed 23 (Design 6)	Fatal IPM Temperature Acquisition Error (NTC is in short circuit or open)	Cycle power to machine. Replace inverter drive if error persists.
EFAn24, Ed 24 (Design 6)	ADC Current Acquisition Fail	Cycle power to machine. Replace inverter drive if error persists.

Table 3 *continues...*

Display	Description	Cause/ Corrective Action
EFAn25, Ed 25 (Design 6)	VBUS Acquisition Fail	Cycle power to machine. Replace inverter drive if error persists.
EFAn26, Ed 26 (Design 6)	Fault IPM Circuit Fail	Cycle power to machine. Replace inverter drive if error persists.
EFLt01 EFt 1 (Factory Test only appears as 4-digit display)	Optional Heat Output Shorted	Check wiring to valve/motor connected to output, replace valve/motor.
EFLt02 EFt2 (Factory Test only appears as 4-digit display)	Motor Relay Enable Output Shorted	Check motor power relay connected between, if error persists replace relay.
EFLt03 EFt3 (Factory Test only appears as 4-digit display)	Spare Relay Enable Ouptut Shorted	Check relay powered by KM2 output, if error persists replace relay.
EFLt04 EFt4 (Factory Test only appears as 4-digit display)	Auxiliary Relay 1 Ouput Shorted Error	Check relay powered by Aux 1 output, if error persists replace relay.
EFLt05 EFt5 (Factory Test only appears as 4-digit display)	Run Relay Output Shorted Error	Check Relay powered by the Run output, if error persists replace relay.
EFLt06 EFt6 (Factory Test only appears as 4-digit display)	Gas Valve 1 Output Shorted Error	Check gas valve 1, if error persists replace valve.
EFLt07 EFt7 (Factory Test only appears as 4-digit display)	Gas Valve 2 Output Shorted Error	Check gas valve 2, if error persists replace valve.
E r01	Transmission Failure	Communication failure. Re-aim external device and try again.
E r02	Device Time-Out	Communication failure. Re-aim external device and try again.
E r03	Invalid Command Code	Incorrect machine type. Before downloading, ensure data is for current machine type.
E r04	Command Packet Time Out	Communication failure. Re-aim external device and try again.
E r05	Invalid or Out-of-Range Data	Incorrect machine type. Before downloading, ensure data is for current machine type and values entered are within the minimum and maximum limits.

Table 3 *continues...*

Display	Description	Cause/ Corrective Action
E 109	CRC-16 Error	Communication failure. Re-aim external device and try again.
E 10A	Framing Error	Communication failure. Re-aim external device and try again.
E 10C	Time-Out Exceeded	Communication failure. Re-aim external device and try again.
E 10E	Encryption Error	Incorrect machine type. Before downloading, ensure data is for current machine type.
E 10F	Invalid Wake-up or Infra-red Disabled	Communication failure or infra-red is disabled. Manually enable infra-red on control or re-aim external device and try again.
E 1CN	ICM Lockout Alarm Active	Check that the gas is turned on and that the ignition circuit functions. Also check that the gas valve is operational. This error needs to be manually reset. To reset, open service door and press start button. After 5 seconds error should be cleared.
E 1CN01 E901 (Factory Test only appears as 4-digit display)	ICM False Flame Error	Press any key, open the loading door or cycle power to machine.
E 1CN02 E902 (Factory Test only appears as 4-digit display)	ICM Alarm Reset Shorted Error	Check wiring between the I/O board and the ignition control. Power down and power up machine to clear the error.
E 1CN03 E903 (Factory Test only appears as 4-digit display)	ICM Hardware Failure Error	Ignition control has detected a hardware fault. Power down and power machine to clear error. Replace ignition control if error persists.
E 10 05	I/O Board 24VDC Supply Over Voltage Error	Check machine input voltage. Power down and power up the machine to clear error. If error persists, replace I/O board.
E 10 06	I/O Board 24VDC Supply Under Voltage Error	Check machine input voltage. Check for pinched control wires. Clear any debris or lint from the I/O board. Power down and power up the machine to clear error. If error persists, replace I/O board.
E 10 07	Heat Output Shorted Error	Power down machine to clear error, power up machine, try heating again. If error persists, replace I/O board.
E 10 32	Mosfet Enabled Shorted Error	Power down machine to clear error, power up machine, try running a cycle. If error persists, replace I/O board.

Table 3 *continues...*

Display	Description	Cause/ Corrective Action
EMrL	Manual Reset Limit Error	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint buildup around the thermostat. Check thermistor and cabinet limit function. Limit needs to be manually reset and machine needs to be powered down to clear the error. If problem persists, replace thermostat.
EnHH	Machine ID Chip Error	Communication failure. Power down, power up and try again. If error persists, check connection between user control and Machine ID chip, or try replacing the user control or the Machine ID chip.
ESL 1	Stove Limit 1 Cycle	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint buildup around the thermostat. Check make-up air and gas pressure. If problem persists, replace thermostat.
ESL2	Stove Limit 2 Cycle	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint buildup around the thermostat. Check make-up air and gas pressure. If problem persists, replace thermostat.
oFF	Break-In Alarm Shutdown Error	Check the service door or coin vault switches.
Right most decimal point Lit	Network Communication Error	Communication problem. Wait for 1.5 minutes for error to clear. If error doesn't clear, power-down and power-up the machine. Check all network connections. If error persists, replace control or network board.

Table 3

Error Codes for N Control - OPL

Error Codes

Following is a list of possible error codes for an electronic control. Errors beginning with E r refer to external device Infra-red communication errors. Errors beginning with EC refer to card reader errors. All other errors refer to machine errors.

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
ALArM	Break-In Alarm Error	Check the service door or coin vault switches.
E AF	Airflow Switch Bounces	Inspect lint screen, ductwork and make-up air. Cycle power to machine (power down, then power up).
E Co	SCI Communications Error	Communication failure. Power down, power up, check connections and try again. If error persists, replace control or output board.
E dS	Brownout/Voltage Configuration	Unexpected supply voltage. Check wiring at input of machine to make sure the correct input voltage is supplied to the machine. Check the harness connections between the user control and the output board. If the user control was replaced, set dipswitch #1 to the same setting as the previous control. If reworking the machine to use a different supply voltage, the dip switch #1 setting may need to be changed. If the dip switch #1 setting is changed, power down, power up and try again.
E HEAt	Machine Did Not Reach Expected Temperature	The ignition control has power, but a flame was not sensed after the programmed amount of retries. Be sure that gas and gas valve are turned on. If problem persists, troubleshoot the ignition circuit. (Igniter, Cable, Ignition Control Module.) For electric machines, check wiring to auxiliary switch on electric contactors and make sure contactors work properly.
E id	Board ID Error	Incorrect replacement control. The display will show oUtPUt. Replace user control or output board with correct part. The board ID error will also be set if the wrong drive motor, fan motor or ignition control are connected. The display will show dr iuE, FAn or iCM. Check machine configurations and connect correct drive motor, fan motor or ignition control.
E nr	Drive/Output Board Not Ready	Hardware failure. Replace output board.
E oP	Open Thermistor Error	Remove any lint build-up around thermistor. Check wire connections. If problem persists, replace control or thermistor.
E SH	Shorted Thermistor Error	Remove any lint build-up around thermistor. If problem persists, replace control or thermistor.
EAF 1	Airflow Switch Failed to Open	Inspect lint screen and ductwork. Wipe clean and completely dry off the airflow switch vane as well as the mating material. Once error is cleared, control will go back to previous mode of operation.
EAF2	Airflow Switch Failed to Close	If machine is newly installed, make sure shipping tie has been removed from airflow switch. Inspect lint screen and ductwork. Cycle power to machine (power down, then power up).

Table 4 *continues...*

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
ECAb	Cabinet Limit Cycle	Remove any lint build-up around thermostat. If problem persists, replace control or thermostat. Check thermistor function. Error can also be caused by running no load or a small load.
ECodru, ECoFAn	Drive and Fan Communication Error	Communication failure. Power down for at least 1 minute, power up, check connections between I/O board and Drive/Fan and try again. If error persists, replace tumbler I/O board or motor with which the error occurred (Fan or Drive).
ECo iCM	ICM Communication Error	Communication failure. Power down, power up, check connections and try again. If error persists, replace tumbler I/O board or ignition control.
EFAn01, Ed 01 (Design 6)	Communication Error	Check wiring between I/O board and inverter.
EFAn02, Ed 02	Fan or Cylinder Motor High DC Bus Error	Voltage to fan/cylinder is too high. Unpower machine to clear error. Check voltage input and check wiring to machine. Replace fan/cylinder motor if error persists.
EFAn03, Ed 03 (Design 6)	Motor Not Connected Error	Check motor wiring.
EFAn04, Ed 04	Fan or Cylinder Motor Stall Error	Check that fan or cylinder turns freely, make sure machine is not overloaded. Error can be cleared by any key press.
EFAn05, Ed 05 (Designs 3 and 5)	Fan or Cylinder Motor Coherence Check Error	Check that fan wheel spins freely. Cylinder error can be caused by an unbalanced load. Try to redistribute the load and lengthen the reversing pause time if reversing is enabled. Error can be cleared by any key press.
EFAn05, Ed 05 (Design 6)	Back EMF Error	Check motor wiring.
EFAn06, Ed 06	Fan or Cylinder Motor IPM Overtemp Error	IPM temperature is detected too high. Check that heat sink on the motor(s) is clear of lint or any other obstruction and check that cylinder spins freely when empty. Design 6, clean inverter drive compartment. Replace motor(s) or inverter drive if error persists.
EFAn07, Ed 07 (Design 6)	Drive Enable Error	Check the inverter drive enable wiring between H6 header on I/O board and inverter drive.
EFAn08, Ed 08 (Designs 3 and 5 only)	Fan or Cylinder Motor Current Limit Error	Check that fan/cylinder turns freely, make sure machine is not overloaded. Replace fan/cylinder motor if error persists.
EFAn09, Ed 09 (Designs 3 and 5 only)	Fan or Cylinder Motor 460V Drive Overcurrent	Check that fan/cylinder turns freely, make sure machine is not overloaded. Replace fan/cylinder motor if error persists.
EFAn 10, Ed 10	Fan or Cylinder Motor Low DC Bus Error	Voltage to motor(s) or inverter drive is too low. For 120V machines, make sure wire harness jumper is connected which connects pins 1 and 2 of the 5-pin connector on the motor. Check voltage input and check wiring to machine. Replace motor(s) or inverter drive if error persists.

Table 4 *continues...*

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
EFAn 11, Ed 11	Fan or Cylinder Motor Overload Error	Check that fan or cylinder turns freely, make sure machine is not overloaded. Error can be cleared by any key press.
EFAn 12, Ed 12 (Designs 3 and 5)	Fan or Cylinder Motor Microcontroller Fault	Try to power down and power up the machine to clear the error. If error persists, replace fan/cylinder motor.
EFAn 12, Ed 12 (Design 6)	Motor System Fail	Check that correct inverter drive is installed. Check for correct configuration of front end control.
Ed 13 (Designs 3 and 5)	Cylinder Motor Hall Sensor Failure	Power down machine to clear error.
EFAn 13, Ed 13 (Design 6)	Setup Compatibility Failure	Check that correct inverter drive is installed. Check for correct configuration of front end control.
EFAn 14, Ed 14 (Design 6)	Power Fail Dangerous Error	Check voltage to machine and voltage to inverter drive.
EFAn 15, Ed 15 (Design 6)	Open Phase Error	Check motor wiring. Replace motor if error persists.
EFAn 16, Ed 16 (Design 6)	Power Fail NO Dangerous Error	Check voltage to machine and voltage to inverter drive.
EFAn 18, Ed 18 (Design 6)	Fatal IPM Over Current Shunt Error	Check motor wiring. Replace motor if error persists.
EFAn 19, Ed 19 (Design 6)	Fatal Hardware I2T Over Current Error	Check for motor overload or blocking condition which could be caused from lint buildup or blocked fan, overwet load or mechanical issues causing cylinder sticking.
EFAn2 1, Ed 21 (Design 6)	Speed Limitation Error	Check that machine is configured to the correct machine size.
EFAn22, Ed 22 (Design 6)	Inrush Pin Hardware On/Off Fail	Cycle power to machine. Replace inverter drive if error persists.
EFAn23, Ed 23 (Design 6)	Fatal IPM Temperature Acquisition Error (NTC is in short circuit or open)	Cycle power to machine. Replace inverter drive if error persists.
EFAn24, Ed 24 (Design 6)	ADC Current Acquisition Fail	Cycle power to machine. Replace inverter drive if error persists.
EFAn25, Ed 25 (Design 6)	VBUS Acquisition Fail	Cycle power to machine. Replace inverter drive if error persists.
EFAn26, Ed 26 (Design 6)	Fault IPM Circuit Fail	Cycle power to machine. Replace inverter drive if error persists.
EFLt01	Optional Heat Output Shorted	Check wiring to valve/motor connected to output, replace valve/motor.
EFLt02	Motor Relay Enable Output Shorted	Check motor power relay connected between, if error persists replace relay.

Table 4 *continues...*

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
EFLt03	Spare Relay Enable Ouptut Shorted	Check relay powered by KM2 output, if error persists replace relay.
EFLt04	Auxiliary Relay 1 Ouput Shorted Error	Check relay powered by Aux 1 output, if error persists replace relay.
EFLt05	Run Relay Output Shorted Error	Check Relay powered by the Run output, if error persists replace relay.
EFLt06	Gas Valve 1 Output Shorted Error	Check gas valve 1, if error persists replace valve.
EFLt07	Gas Valve 2 Output Shorted Error	Check gas valve 2, if error persists replace valve.
E i01	Transmission Failure	Communication failure. Re-aim external device and try again.
E i02	Device Time-Out	Communication failure. Re-aim external device and try again.
E i03	Invalid Command Code	Incorrect machine type. Before downloading, ensure data is for current machine type.
E i04	Command Packet Time Out	Communication failure. Re-aim external device and try again.
E i05	Invalid or Out-of-Range Data	Incorrect machine type. Before downloading, ensure data is for current machine type and values entered are within the minimum and maximum limits.
E i09	CRC-16 Error	Communication failure. Re-aim external device and try again.
E i0A	Framing Error	Communication failure. Re-aim external device and try again.
E i0C	Time-Out Exceeded	Communication failure. Re-aim external device and try again.
E i0E	Encryption Error	Incorrect machine type. Before downloading, ensure data is for current machine type.
E i0F	Invalid Wake-up or Infra-red Disabled	Communication failure or infra-red is disabled. Manually enable infra-red on control or re-aim external device and try again.
E iCn	ICM Lockout Alarm Active	Check that the gas is turned on and that the ignition circuit functions. Also check that the gas valve is operational. This error needs to be manually reset. To reset, open service door and press start button. After 5 seconds error should be cleared.
E iCn01	False Flame Error	Press any key, open the loading door or cycle power to machine.
E iCn02	ICM Alarm Reset Shorted Error	Check wiring between the I/O board and the ignition control. Power down and power up machine to clear the error.
E iCn03	ICM Hardware Failure Error	Ignition control has detected a hardware fault. Power down and power machine to clear error. Replace ignition control if error persists.
E io 05	I/O Board 24VDC Supply Over Voltage Error	Check machine input voltage. Power down and power up the machine to clear error. If error persists, replace I/O board.
E io 06	I/O Board 24VDC Supply Under Voltage Error	Check machine input voltage. Check for pinched control wires. Clear any debris or lint from the I/O board. Power down and power up the machine to clear error. If error persists, replace I/O board.

Table 4 *continues...*

Error Codes		
Display	**Description**	**Cause/ Corrective Action**
E io 07	Heat Output Shorted Error	Power down machine to clear error, power up machine, try heating again. If error persists, replace I/O board.
E io 32	Mosfet Enabled Shorted Error	Power down machine to clear error, power up machine, try running a cycle. If error persists, replace I/O board.
EMo iSt	Moisture Sensor Error	Make sure cylinder is empty and check slip ring connection on back of machine.
EMrL	Manual Reset Limit Error	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint buildup around the thermostat. Check thermistor and cabinet limit function. Limit needs to be manually reset and machine needs to be powered down to clear the error. If problem persists, replace thermostat.
EnHH	Machine ID Chip Error	Communication failure. Power down, power up and try again. If error persists, check connection between user control and Machine ID chip, or try replacing the user control or the Machine ID chip.
ESL 1	Stove Limit 1 Cycle	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint buildup around the thermostat. Check make-up air and gas pressure. If problem persists, replace thermostat.
ESL2	Stove Limit 2 Cycle	Inspect tumble dryers venting/ventwork to ensure that the ventwork is adequate and that there are no blockages. Be sure to clean and inspect lint screen. Remove any lint buildup around the thermostat. Check make-up air and gas pressure. If problem persists, replace thermostat.
Right most decimal point Lit	Machine ID Communication Error	Communication failure. Power down, power up and try again. If error persists, check connection between user control and Machine ID chip, or try replacing the user control or the Machine ID chip.

Table 4

Error Codes for D Control

Error Codes

Display	Description	Cause/ Corrective Action
Fan or Drive Motor Error (1) (Design 6)	Communication Error	Check wiring between I/O board and inverter.
Fan or Drive Motor Error (2)	Fan or Cylinder Motor High DC Bus Error	Voltage to fan/cylinder is too high. Unpower machine to clear error. Check voltage input and check wiring to machine. Replace fan/cylinder motor if error persists.
Fan or Drive Motor Error (3) (Design 6)	Motor Not Connected Error	Check motor wiring.
Fan or Drive Motor Error (4)	Fan or Cylinder Motor Stall Error	Check that fan or cylinder turns freely, make sure machine is not overloaded. Error can be cleared by any key press.
Fan or Drive Motor Error (5) (Designs 3 and 5)	Fan or Cylinder Motor Coherence Check Error	Check that fan wheel spins freely. Cylinder error can be caused by an unbalanced load. Try to redistribute the load and lengthen the reversing pause time if reversing is enabled. Error can be cleared by any key press.
Fan or Drive Motor Error (5) (Design 6)	Back EMF Error	Check motor wiring.
Fan or Drive Motor Error (6)	Fan or Cylinder Motor IPM Overtemp Error	IPM temperature is detected too high. Check that heat sink on the motor(s) is clear of lint or any other obstruction and check that cylinder spins freely when empty. Design 6, clean inverter drive compartment. Replace motor(s) or inverter drive if error persists.
Fan or Drive Motor Error (7) (Design 6)	Drive Enable Error	Check the inverter drive enable wiring between H6 header on I/O board and inverter drive.
Fan or Drive Motor Error (8) (Designs 3 and 5 only)	Fan or Cylinder Motor Current Limit Error	Check that fan/cylinder turns freely, make sure machine is not overloaded. Replace fan/cylinder motor if error persists.
Fan or Drive Motor Error (9) (Designs 3 and 5 only)	Fan or Cylinder Motor 460V Drive Overcurrent	Check that fan/cylinder turns freely, make sure machine is not overloaded. Replace fan/cylinder motor if error persists.

Table 5 *continues...*

Display	Description	Cause/ Corrective Action
Fan or Drive Motor Error (10)	Fan or Cylinder Motor Low DC Bus Error	Voltage to motor(s) or inverter drive is too low. For 120V machines, make sure wire harness jumper is connected which connects pins 1 and 2 of the 5-pin connector on the motor. Check voltage input and check wiring to machine. Replace motor(s) or inverter drive if error persists.
Fan or Drive Motor Error (11)	Fan or Cylinder Motor Overload Error	Check that fan or cylinder turns freely, make sure machine is not overloaded. Error can be cleared by any key press.
Fan or Drive Motor Error (12) (Designs 3 and 5)	Fan or Cylinder Motor Microcontroller Fault	Try to power down and power up the machine to clear the error. If error persists, replace fan/cylinder motor.
Fan or Drive Motor Error (12) (Design 6)	Motor System Fail	Check that correct inverter drive is installed. Check for correct configuration of front end control.
Drive Motor Error (13) (Designs 3 and 5)	Cylinder Motor Hall Sensor Failure	Power down machine to clear error.
Fan or Drive Motor Error (13) (Design 6)	Setup Compatibility Failure	Check that correct inverter drive is installed. Check for correct configuration of front end control.
Fan or Drive Motor Error (14) (Design 6)	Power Fail Dangerous Error	Check voltage to machine and voltage to inverter drive.
Fan or Drive Motor Error (15) (Design 6)	Open Phase Error	Check motor wiring. Replace motor if error persists.
Fan or Drive Motor Error (16) (Design 6)	Power Fail NO Dangerous Error	Check voltage to machine and voltage to inverter drive.
Fan or Drive Motor Error (18) (Design 6)	Fatal IPM Over Current Shunt Error	Check motor wiring. Replace motor if error persists.
Fan or Drive Motor Error (19) (Design 6)	Fatal Hardware I2T Over Current Error	Check for motor overload or blocking condition which could be caused from lint buildup or blocked fan, overwet load or mechanical issues causing cylinder sticking.
Fan or Drive Motor Error (21) (Design 6)	Speed Limitation Error	Check that machine is configured to the correct machine size.
Fan or Drive Motor Error (22) (Design 6)	Inrush Pin Hardware On/Off Fail	Cycle power to machine. Replace inverter drive if error persists.
Fan or Drive Motor Error (23) (Design 6)	Fatal IPM Temperature Acquisition Error (NTC is in short circuit or open)	Cycle power to machine. Replace inverter drive if error persists.
Fan or Drive Motor Error (24) (Design 6)	ADC Current Acquisition Fail	Cycle power to machine. Replace inverter drive if error persists.

Table 5 *continues...*

Display	Description	Cause/ Corrective Action
Fan or Drive Motor Error (25) (Design 6)	VBUS Acquisition Fail	Cycle power to machine. Replace inverter drive if error persists.
Fan or Drive Motor Error (26) (Design 6)	Fault IPM Circuit Fail	Cycle power to machine. Replace inverter drive if error persists.
Shorted Output Error (1)	Optional Heat Output Shorted	Check wiring to valve/motor connected to output, replace valve/motor.
Shorted Output Error (2)	Motor Relay Enable Output Shorted	Check motor power relay connected between, if error persists replace relay.
Shorted Output Error (3)	Spare Relay Enable Ouptut Shorted	Check relay powered by KM2 output, if error persists replace relay.
Shorted Output Error (4)	Auxiliary Relay 1 Ouput Shorted Error	Check relay powered by Aux 1 output, if error persists replace relay.
Shorted Output Error (5)	Run Relay Output Shorted Error	Check Relay powered by the Run output, if error persists replace relay.
Shorted Output Error (6)	Gas Valve 1 Output Shorted Error	Check gas valve 1, if error persists replace valve.
Shorted Output Error (7)	Gas Valve 2 Output Shorted Error	Check gas valve 2, if error persists replace valve.
ICM Error (2)	ICM Alarm Reset Shorted Error	Check wiring between the I/O board and the ignition control. Power down and power up machine to clear the error.
ICM Error (3)	ICM Hardware Failure Error	Ignition control has detected a hardware fault. Power down and power machine to clear error. Replace ignition control if error persists.
ICM Error (4)	ICM Lockout Alarm Active	Check that the gas is turned on and that the ignition circuit functions. Also check that the gas valve is operational. This error needs to be manually reset. To reset, open service door and press start button. After 5 seconds error should be cleared.
Output Board Error (5)	I/O Board 24VDC Supply Over Voltage Error	Check machine input voltage. Power down and power up the machine to clear error. If error persists, replace I/O board.
Output Board Error (6)	I/O Board 24VDC Supply Under Voltage Error	Check machine input voltage. Check for pinched control wires. Clear any debris or lint from the I/O board. Power down and power up the machine to clear error. If error persists, replace I/O board.
Output Board Error (7)	Heat Output Shorted Error	Power down machine to clear error, power up machine, try heating again. If error persists, replace I/O board.

Table 5 *continues...*

Display	Description	Cause/ Corrective Action
Output Board Error (32)	Mosfet Enabled Shorted Error	Power down machine to clear error, power up machine, try running a cycle. If error persists, replace I/O board.

Table 5

Error Codes for V Control - Vend and OPL

Machine Errors

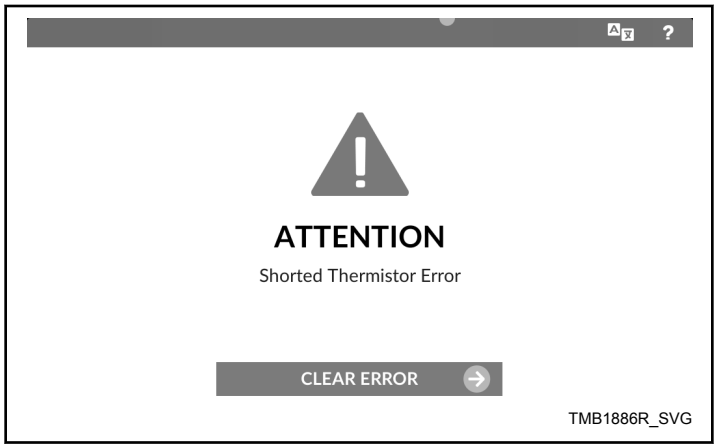


Figure 26

The control displays and logs errors as they occur. When the control senses the error condition, the audit counter for that error increases by one (1). The control saves the time and date of the last 25 errors which have occurred.

Certain errors can be cleared if they are non-fatal. Those can be cleared by pressing the "CLEAR ERROR" button independent of the programming parameter. Fatal errors can be cleared in the *System Menu*, if the clear error parameter is enabled.

Clear errors manually (if enabled in programming) by touching CLEAR ERROR (when shown), send the clear fatal error command using a PC or cycle power to the machine.

Certain errors trigger a 15 second Machine Error Tone. Touch the display to silence the tone.

Air Flow Switch 1 Error

This error indicates the air flow switch failed to open while the machine was in a stopped state. If an air flow switch is sensed closed for thirty (30) consecutive seconds, thirty (30) seconds after powering up, pausing a cycle, or ending a cycle, the control will show the Message Page with "Air Flow 1 Error" until the air flow switch opens or power is cycled to the machine. When this error occurs, all user input will be ignored. If the error does clear, the control will go back to its previous mode of operation. Cycling power to the machine will clear the error but if the error condition still exists, the error will be set again.

Air Flow Switch 2 Error

This error indicates the air flow switch fails to close 5 seconds after a cycle has started or resumed 3 times. To account for delays, the control will wait until the fan motor is running before checking for this error. After each time the air flow switch fails to close, the cycle will be halted and the control will display "Air Flow 2 Error". The machine will remain paused for 30 seconds before the user can clear the error condition by pressing the clear error button. At this time the user can attempt to resume the cycle. If the air flow switch does not close after three (3) attempts, the control will again set the error and this time treat it as a cool down error.

Air Flow Switch Bounce Error

This error will be treated as a cool down error. A bounce is when the air flow switch is open for 1 second, then closed for 5 seconds. Each bounce increments the air flow switch bounce counter. As soon as the air flow switch is opened, the heat will be turned off. The error is set if the air flow switch bounces 5 times within a 5 minute period. When this error is set, the heat will be turned off and the remainder of the cycle will be run without heat. Once the cycle is completed, the control will display "Air Flow Error".

To protect the heat contactors on electric models, a switch bounce will be determined differently. The alarm input on the I/O board will be used to determine if the air flow switch has opened. Instead of waiting for 1 second before recognizing the air flow switch as open, the air flow switch will be observed as open if the alarm input detects it open for 0.25 seconds.

Break-In Alarm Error

If enabled in programming, the user has (30) seconds to enter the bypass passcode after opening the Service Door and/or Coin Vault. If thirty (30) seconds expire or an incorrect passcode is entered, the control triggers the a Break-In Alarm.

The control signals a network alarm, cause a machine alarm or shut down the machine. The date and time of the break-in is recorded.

The owner can program an alarm to sound (if the passcode is not correctly entered) upon Coin Vault Opening, Service Door Opening or both.The error is non-fatal will clear by itself after 15 seconds.

The owner can also program the machine to shut down (if the passcode is not correctly entered) upon Coin Vault Opening, Service Door Opening or both. The error is fatal and the control will shut down the machine at the end of a cycle, if one is in process.

The hour, date and error code of the event are saved in audit. The error display takes priority over any other error that is already set.

To avoid the alarm during coin collections, the alarm must be turned off or temporarily disabled

Board ID Error (Fatal)

This error occurs when an incorrect board is connected for the machine type and configuration.

The control checks that the connected drive or output board is the correct board. The control also checks that the correct drive and auxiliary output board is connected. The control sets the Board ID Error if the wrong drive motor or auxiliary board is connected for the machine configuration. The display shows Output Board ID Error, Drive Board ID Error , "Fan Board ID Error" or "ICM Board ID Error" according to the error.

Brownout/Voltage Configuration Error

This error occurs if the control senses input voltage that does not match the machine configuration. The display shows "Voltage Configuration Error". To clear the error, correct the the input voltage or the voltage configuration parameter (refer to *Settings Menu*), then cycle power to the machine power.

Cabinet Limit Cycle Error

This error is an end of cycle error. While there is a call for heat, if the cabinet temperature causes the cabinet limit to open, the heater will be turned off and the control will continue the cycle with no heat until the limit thermostat resets. At the end of the cycle the control will show the Message Page with "Cabinet Limit Cycle" if the Display Limit Cycles programming parameter is enabled. The control will continue displaying the error message until the error is cleared. Extended tumble will be allowed while the error is present after the cycle has completed.

The control will increment the cabinet limit cycle audit counter only once per cycle.

Coin Drop Error

If enabled in programming, a Coin Drop Error occurs if a coin input pulse is too short, if the input is too long or if the input is too close to the previous input. The control displays "Coin Error" and turn on the Machine Error Tone for five (5) seconds, after which the error terminates. The coin error #1 or #2 audit counters will be incremented. Any valid coins are accepted normally and will terminate the error condition.

If the coin error penalty parameter is enabled and the coin error is enabled in programming, when a coin error occurs all vend progress is lost and the control returns to the *Approach Page*.

Communication B Errors

Communication B Errors occur when the control cannot properly communicate with an external device, indicating a problem with the USB Serial Communication. These errors not displayed, but are recorded in *Audit Data Menu*. Refer to *Table 6* for the error codes.

Error Code	Descriptions
3	Invalid Command
4	Unexpected Data
5	Out of Range Data
6	No Data Received
7	Invalid Data Length
8	Invalid Command Length

Table 6

Drive and Fan Communication Errors

If the I/O board ever fails to communicate with the fan or drive, the I/O board will set a communication error and send the error code to the control. The control will allow the I/O board to retry communications 3 times. If retries remain when the error is received, the error will be treated as a communication error where the error is displayed until communication is re-established. The control will pause all operation for 1 minute while allowing the fan or drive to fully power down before retrying. During this 1 minute delay, the control will display "Drive Comm Error" for drive communication errors or "Fan Comm Error" for fan communication errors. Once 1 minute has expired, the control will power up the drive and fan and attempt to re-establish communications. If the I/O board is unable to establish communication after 3 retry attempts, the control will then treat this error as a fatal error.

General Drive Errors

The handling of this error will be determined by the error code received. Regardless of which error code is received, when this error is set, the control will terminate the cycle if a cycle was running and display "Drive Motor Error XXX" where "XXX" represents the error code. Refer to *Table 7* .

Error Code	Descriptions	Number of Retries
1	Communication Error	Unlimited
2	High DC Bus Error	4
3 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Motor Not Connected Error	3
4	Stall Error	4

Table 7

continues...

Error Code	Descriptions	Number of Retries
5 (Tumble Dryer Designs 4 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Coherence Check Error	4
5 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Back EMF Error	4
6	IPM Overtemp Error	0
7 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Drive Enable Error	255
8 (Tumble Dryer Designs 4 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Current Limit Reached Error	4
9 (Tumble Dryer Designs 4 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	460V Drive Overcurrent Error	4
10	Low DC Bus Error	9
11	Motor Overload Error	1
12 (Tumble Dryer Designs 4 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Microcontroller Fault Error	1
12 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Motor System Fail	0
13 (Tumble Dryer Designs 4 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Hall Sensor Error	3
13 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Setup Compatibility Failure	0
14 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Power Fail Dangerous Error	255
15 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Open Phase Error	0
16 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Power Fail NO Dangerous Error	255
18 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Fatal IPM Over Current Shunt Error	0
19 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Fatal Hardware I2T Over Current Error	0
21 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Speed Limitation Error	0

Table 7 *continues...*

Table 7 *continues...*

Error Code	Descriptions	Number of Retries
22 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Inrush Pin Hardware On/Off Fail	0
23 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Fatal IPM Temperature Acquisition Error (NTC is in short circuit or open)	0
24 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	ADC Current Acquisition Fail	0
25 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	VBUS Acquisition Fail	0
26 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Fault IPM Circuit Fail	0

Table 7

General Fan Errors

When this error is set, the control will terminate the cycle and either enter Machine Error Mode or remain in End of Cycle Mode while displaying an error code on the display. If Machine Error Mode was entered, the control will turn on the Machine Error Tone. The display will show the Message Menu with "FAN MOTOR ERROR XXX" where "XXX" is the specific error code. Refer to *Table 8* .

Error Code	Descriptions	Number of Retries
1	Communication Error	Unlimited
2	High DC Bus Error	4
3 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Motor Not Connected Error	3
4	Stall Error	4
5 (Tumble Dryer Designs 4 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Coherence Check Error	4
5 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Back EMF Error	4
6	IPM Overtemp Error	0
7 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Drive Enable Error	255
8 (Tumble Dryer Designs 4 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Current Limit Reached Error	4
9 (Tumble Dryer Designs 4 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	460V Drive Overcurrent Error	4
10	Low DC Bus Error	9
11	Motor Overload Error	1

Table 8 *continues...*

Error Code	Descriptions	Number of Retries
12 (Tumble Dryer Designs 4 and 5, Stacked Washer-Extractor/Tumble Dryer Designs 1 and 2)	Microcontroller Fault Error	1
12 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Motor System Fail	0
13 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Setup Compatibility Failure	0
14 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Power Fail Dangerous Error	255
15 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Open Phase Error	0
16 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Power Fail NO Dangerous Error	255
18 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Fatal IPM Over Current Shunt Error	0
19 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Fatal Hardware I2T Over Current Error	0
21 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Speed Limitation Error	0
22 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Inrush Pin Hardware On/Off Fail	0
23 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Fatal IPM Temperature Acquisition Error (NTC is in short circuit or open)	0
24 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	ADC Current Acquisition Fail	0
25 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	VBUS Acquisition Fail	0
26 (Tumble Dryer Design 6, Stacked Washer-Extractor/ Tumble Dryer Design 3)	Fault IPM Circuit Fail	0

Table 8

General ICM Errors

This error is set when the Ignition Control Module (ICM) communicates an error code to the I/O board. If the error received is a Lockout Error, an Auto-Ignite Retry Error will be set. If a different error code is received, the control will handle the error as described below. When one of these errors is displayed, the display will show the message page "ICM Error X" where "X" represents the error code. Refer to *Table 9* .

Descriptions	Error Code
False Flame Error	1
Reset Shorted Error	2

Table 9 *continues...*

Descriptions	Error Code
Hardware Fault Error	3

Table 9

If the False Flame Error is received, the control will turn off the heat for fifteen (15) seconds and the error will be treated as an end of cycle error. The error will be displayed if the False Flame Programmable Display Option is enabled. If the error occurs multiple times in one cycle, the error audit counter will be incremented only once per cycle. The control will continue displaying the error message until the error is cleared.

When the Reset Shorted Error code is received, the error will be treated as a fatal error. This error indicates that the alarm reset signal to the ICM has been detected.

When the Hardware Fault Error code is received, the error will be treated as a fatal error. This error indicates that the ICM has detected an internal control failure. When this error is set, the control will terminate operation and display the error.

Heat Error

Gas Models

Each gas machine is equipped with an Ignition Control Module (ICM) that is responsible for opening the gas valve and igniting the gas to heat the machine. When there is a call for heat, the gas valve is opened and the ICM attempts to ignite the gas to heat the machine. If the ICM fails to ignite the gas, the ICM will send an ICM Lockout Alarm to the control. When the control receives the ICM Lockout Alarm, the control will increment the Auto-Ignite Retries Error audit counter. The lockout alarm can be reset if retries remain. The amount of retries the control allows is programmable.

When this error is set on IEC machines, the error will be treated as a fatal error. These machines are equipped with an ICM that needs to be manually reset. When the control receives the ICM lockout alarm, the control will show the Message Page with "ICM Error 4". In order to reset the alarm, the service door switch must be opened. Once the service door is opened, the display will prompt the user to reset the ICM. When the ICM is reset, the control will remove the error message and prompt the user to resume the cycle. The user can continue to reset the ICM until there are no more programmable retry attempts or the gas ignites. If the ICM fails to ignite the gas on the last attempt, the control will pause the cycle once more while displaying "ICM Error 4". Once the alarm is reset, the control will terminate the cycle and display "Heat Error".

On machines equipped with an ICM that does not need to be manually reset, the control will automatically clear the ICM lockout alarm and continue to try and ignite the gas until there are no more programmable retry attempts or the gas ignites. If the ICM fails to ignite the gas on the last attempt, the error will be set and treated as a cool down error. When the cycle is completed, the control will display "Heat Error".

Electric Models

If the control determines that the electric heat contactor is stuck closed, the control will terminate the cycle and set the error. In this condition, the error will be treated as a fatal error displaying "Heat Error".

IR Communications Error

This error occurs if there is a problem with communication between the control and an IR device. The control displays "IR Comm Error (XXX)" where "XXX" indicates the error code value. Refer to *Table 10* .

Error Code	Description
01	Error detected when sending data
02	Time-Out Error
03	Invalid Command Code
05	Invalid or Out of Range Data
09	CRC-16 Error
0A	Framing Error
0C	Time-Out Exceeding While Getting Packet
0E	Encryption Error
0F	IR Disabled in Control Programming

Table 10

Machine ID Chip Error

This error occurs if the control detects either a communication error with the machine ID chip or a control configuration error. The control displays "Machine ID Chip Error (XXX)". "XXX" indicates an error code value. Refer to *Table 11* .

Error Code	Description	Type
05	Read Error	Notification
06	Write Error	Notification
31	Product byte 1 mismatch	Power Up
32	Product byte 2 mismatch	Power Up

Table 11 *continues...*

Error Code	Description	Type
33	Product byte 3 mismatch	Power Up
39	CRC error with unconfigured control	Power Up
FF	No ID chip connected and no configuration in control	Power Up

Table 11

Notification errors occur when communication between the control and ID chip has failed. When the error is set, the hour, date and error code of the event are saved in *Audit Information*.

Power Up errors occur when the control is not configured and cannot get configuration data from the Machine ID chip. The error clears once the control is successfully configured.

Manual Reset Limit Error

This error will be set if there is a call for heat and the cabinet temperature caused the manual reset limit to open. Instead of immediately ending the cycle, the heater will be turned off and the control will advance to cool down with the cool down time set to fifteen (15) minutes. This is to make sure that the machine has adequate time to cool down prior to stopping since this error indicates an unsafe temperature. While cool down is running, the error status indicator will be shown. Once the cool down time expires, the control will display "Manual Reset Limit Error". While running the factory test cycle, the test cycle will end and the error display message will be shown immediately.

Network Communications Error

This error occurs if communication fail between the control and the ALS Wi-Fi board. When the error sets, the control displays "Network Error". The error code is not shown, but it is recorded in audit data. Refer to *Table 12* .

Error Code	Description
02	Time-Out Error
03	Invalid Command Code
05	Invalid or Out of Range Data
06	Invalid Data Code
09	CRC-16 Error
19	No Communication

Table 12

Open Thermistor Error

This error will be set when the I/O board senses a temperature less than 0°F [-18°C] and the heater has been active for at least three (3) minutes. Once the cycle has ended and the error is active, the error will not be allowed to be cleared until the temperature reading is greater than 0°F [-18°C]. When this error occurs, the display will show "Open Thermistor Error". If this error occurs during a cycle, the machine will go to cool down.

Output Board Errors

This error occurs if the control receives error code from the Output Board. The control turns off all outputs, sounds the Machine Error Tone for 15 seconds, and displays "Output Board Error (XXX)" where "XXX" is the specific error code (refer to *Table 13*). When an Output Error occurs, the specific error is counted in *Audit Data Menu*.

Output Board Errors	
"XX"	**Description**
5	24VDC Over Voltage
6	24VDC Under Voltage
7	Heat Output Shorted
32	MOSFET Enable Shorted

Table 13

Payment System Communications Error

These errors may occur during communication with the Serial Payment System. The display shows " No Payment System initialization performed", "Loss of communication" or "No initialization and no communication ", according to the error. Once communications are restored, the control returns to the previous state. The hour, date and error code of the event are saved.

SCI Communication Error (Fatal)

This error occurs if communication fails between the control and the drive or output board. SCI Communications Errors can also be caused by drive or output board detecting a *System Integrity Error*. The control displays "SCI Comm Error".

Shorted Output Error

This error is caused by one of the 7 MOSFET controlled outputs on the I/O board being detected as a short. This error will be treated as a fatal error and will display "Output Board Error XXX" where "XXX" is the specific error code. Refer to *Table 14* .

Shorted Output	Error Code
Optional Heat Output	11
Motor Enable Relay Output (KM1)	12
Spare Enable Relay Output (KM2)	13
Auxiliary Relay 1 Output (KA1)	14
Auxiliary Relay 2 Output (KA2)	15
Gas Valve 1 Output (GV1)	16
Gas Valve 2 Output (GV2)	17

Table 14

Shorted Thermistor Error

This error will be set when the I/O board senses a temperature greater than 210°F [99°C] and the motor is active. Once the cycle has ended and the error is active, the error will not be allowed to be cleared until the temperature reading is less than 210°F [99°C]. When this error occurs, the display will show "Shorted Thermistor Error". If this error occurs during a cycle, the machine will go to cool down.

Stove Limit Cycles

Depending on the configuration, machines either have 1 or 2 limit thermostats monitoring the stove temperature. If at any point during the cycle, the stove temperature exceeds the limit temperature and one of these limits opens, the heat will be turned off until the limit is reset. If the Display Limit Cycles parameter is enabled, an error will be set. These errors will be treated as end of cycle errors. If the first limit opens causing an error, the display will show "Stove Limit 1 Cycle", while the second limit opening will display "Stove Limit 2 Cycle".

The control will increment the individual audit counter only once per cycle. The error will only be displayed for the two (2) minute pause between cycles.

System Integrity Error

This error occurs if a *SCI Communication Error (Fatal)* happens on the drive or output board. When the error sets, drive or output board stops communication with the control. The output board displays the error by flashing LEDs on and off. The machine must be powered down to clear the error.

Error Description	Number of LED Flashes
CPU Error	1
SFR Error	2
ROM Error	3
RAM Error	4
Stack Error	5
RAM Buffer and Empty Error	6
Software Watchdog Error	7
Slow Monitoring Error	8

Table continues...