



PRODUCT GUIDE

SYNCHRONIC WASTEGATE



SYNCHRONIC WASTEGATE is a fundamentally new design that incorporates our *patented actuator technology* to give you more tunability than you thought was possible with a wastegate. You can produce a minimum of 6 different boost pressures on the same spring, without a boost controller. Synchronic WG is the only wastegate on the market that eliminates the diaphragm, gives you the ability to control flow and has up to 15 built-in boost settings.

- **No Diaphragm**
- **Adjustable Valve Pre-Load**
- **15 Built-In Boost Settings**
- **Integrated Exhaust Manifold Seal**
- **Advanced Engineered Materials**
- **Integrated Flow Control**

Patented Synchronic actuator geometry means no diaphragms to fail and boost control frequencies from 30 to 60 Hz



4 ports connect to different surface areas allowing you to adjust boost without buying a boost controller

SYNCHRONIC 



Synchronic Wastegate WG001 is our smallest frame universal wastegate with a 40 mm valve and 2-bolt mounting flange that is a bolt-on replacement to many wastegates on the market today. With each retail kit, you get 4-25 psi of boost in a box.

Part No.	Description
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04012	Synchronic Wastegate 40MM No Flanges - Silver
04011	Synchronic Wastegate 40MM No Flanges - Black
04022	Synchronic Wastegate 40MM Including Flanges - Silver
04021	Synchronic Wastegate 40MM Including Flanges - Black



04012



04021

Synchronic Wastegate WG002 is our large frame universal wastegate with a 50 mm valve and v-band mounting flange that is a bolt-on replacement to the popular 44 mm wastegates on the market today. With each retail kit, you get 4-25 psi of boost in a box.

Part No.	Description
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04032	Synchronic Wastegate 50MM No Flanges - Silver
04031	Synchronic Wastegate 50MM No Flanges - Black
04042	Synchronic Wastegate 50MM Including Flanges - Silver
04041	Synchronic Wastegate 50MM Including Flanges -Black



04031



04041



Part No.	Description
04600	Synchronic WG 40MM Weld-On Flanges
04601	Synchronic WG 40MM Copper Flange Seal
04602	Synchronic WG 40MM Outlet Weld Flange
04603	Synchronic WG 40MM Inlet Weld Flange
04604	Synchronic WG 50MM V-Band Kit Includes 2 Flanges & 2 Clamps
04605	Synchronic WG 50MM Copper Flange Seal
04606	Synchronic WG 50MM V-Band Clamps (2 pcs)
04607	Synchronic WG 50MM Weld-On Flanges (2 pcs)
04608	Synchronic WG 40MM Valve Seat (Small Inner Diameter)
04609	Synchronic WG 40MM Valve Seat (Large Inner Diameter)
04610	Synchronic WG 50MM Valve Seat (Small Inner Diameter)
04611	Synchronic WG 50MM Valve Seat (Large Inner Diameter)



SYNCHRONIC **BLOW-OFF VALVE**

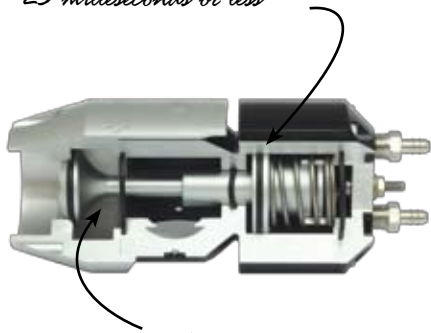


SYNCHRONIC BOV is a fast-acting design that functions as a blow-off, diverter/bypass and even a pop-off valve. The patented (6,863,260) design eliminates the diaphragm with a multi-tier piston actuator that equalizes the force required to open the valve at any boost pressure.

This design is intended to significantly reduce or eliminate compressor surge and eliminates leaking by seating the valve more as boost pressure increases. Each assembly is pressure tested to 100 psi prior to leaving the factory. Interchangeable inlet and discharge flanges allow us to offer various adapters and kits available for many popular applications.



Patented Synchronic actuator means no diaphragms to fail and response times in 25 milliseconds or less



Dynamic seals and billet valving mean sealing of 100+ psi of boost

SYNCHRONIC



Part No.	Description
02012	Universal SB BOV Silver/Black w/ ss Weld-On Flange & 1.25" Recirc Fitting
02022	Universal SB BOV Silver/Black w/ Al Weld-On Flange & 1.25" Recirc Fitting
02032	Universal SB BOV Silver/Black Without Flanges
02042	Universal SB BOV Silver/Black With 1.25" Recirculation Fitting Only
02011	Universal SB BOV Black/Black With ss Weld-On Flange With 1.25" Recirc Fitting
02021	Universal SB BOV Black/Black With Al Weld-On Flange W/ 1.25" Recirc Fitting



Part No.	Description
02053	Synchronic SB BOV Kit w/ Powder Coated Black Pipe For BMW 135i & 335i
02062	Synchronic SB Twin BOV Kit For Nissan GTR R35
02072	Synchronic SB BOV Kit For Mitsubishi Evolution 7, 8, 9, & X
02082	Synchronic SB BOV Kit For 08+ WRX
02092	Synchronic SB BOV Kit Mazdaspeed 3, 6, & Cx7
02102	Synchronic SB BOV Kit For Hyundai Genesis 2.0T
02111	1/8th NPT Back Cap Upgrade Kit For 1st Gen Synchronic SB BOV
02061	Synchronic Twin Black SB BOV Kit For Nissan GTR R35
02101	Synchronic Black SB BOV Kit For Hyundai Genesis 2.0T
02121	Synchronic SB BOV Kit To Replace Tial-Style BOVs
02131	Synchronic SB BOV Kit To Replace HKS ssq-Style BOVs
02141	Synchronic SB BOV Kit To Replace Greddy-Style BOVs
02151	Synchronic SB BOV Kit For Mitsubishi Eclipse Gst/Gsx and Evo 5 & 6
02161	Synchronic Single SB BOV Kit For Nissan Skyline GTS (R32, R33 And R34)

SYNCHRONIC **DIVERTER VALVE**

SYNCHRONIC DIVERTER VALVE is the first compact DV/BOV that uses the patented Synchronic actuation technology. It eliminates the use of diaphragms with a piston actuator that doesn't require frequent re-lubrication. It has also been designed to hold 100 psi of boost, yet fast acting enough to eliminate compressor surge. It can be used as either a pull-type or push-type DV/BOV, and will work directly with all Synchronic BOV adapters, for an easy installation.

- *Compact design with no diaphragm*
- *Interchangeable with all adapter flanges*
- *Install as Pull or Push type valve*
- *Pressure tested to 100 psi not to leak boost*
- *Impossibly fast actuation*



Patented Synchronic actuator means no diaphragms to fail and response times in 25 milliseconds or less

Dynamic seals and billet valving mean sealing of 60+ psi of boost



Part No.	Description
03011	Universal Synchronic Diverter Valve With Clamps, No Flanges



Part No.	Description
03021	Synchronic DV Kit For Mazdaspeed 3, 6 & Cx7 With Hardware
03031	Synchronic DV Kit With 1" Hose End Adapters
03041	Synchronic DV Kit USDM Subaru WRX (02 To 07) And Sti (04+) With TMIC
03051	Synchronic DV Kit For Mitsubishi Evolution 7, 8, 9 & X (Gsr & Mr)
03061	Synchronic DV Kit For Custom Fabrication With Al Weld-On & 1.25" Recirc
03071	Synchronic DV Kit With Stainless Steel Weld-On & 1.25" Recirc
03081	Synchronic DV Only Kit For 2011+ Nissan Juke 1.6T
03091	Synchronic DV Replacement Kit For Bosch 1 Inch Bypass/Diverter Valve
03101	Synchronic DV Kit For Tial BOV Direct Replacement
03111	Synchronic DV Kit For Hks ssqv Replacement
03121	Synchronic DV Kit For Greddy BOV Replacement
03131	Synchronic DV & Charge Pipe Kit For 2011+ Nissan Juke 1.6L Turbo
03141	Synchronic DV Kit W/ Pipe For Hyundai Genesis Coupe 2.0T
03151	Synchronic Twin DV Kit For 2009+ Nissan GTR R35
03161	Synchronic DV Kit For Ford Focus Rs & Renault Clio (1" Fittings)
03171	Synchronic Dual DV Kit For Audi 2.7T Bi Turbo (1" Fittings)
03181	Synchronic Dual DV Kit For Nissan GTR R32, R33 And R34 Twin Turbo
03191	Synchronic DV Kit For 1999-2001 Subaru Wrx/Sti & 2008+ Subaru Wrx (TMIC)
03201	Synchronic Dual DV Kit For Porsche 911, 996 And Cayenne Tt (1" Fittings)
03211	Synchronic DV Kit 95-99 Eclipse Gst/Gsx, Talon Tsi & Evo 5/6 (1.25" Fitting)
03221	Synchronic Single DV Kit For Nissan Gts R32, R33 And R34 W/ Single Turbo
03236	DV Color Top Replacement Kit Blue Includes Hardware
03235	DV Color Top Replacement Kit Red Includes Hardware
03232	DV Color Top Replacement Kit Silver Includes Hardware
03237	DV Color Top Replacement Kit Orange Includes Hardware
03233	DV Color Top Replacement Kit Raw Al Includes Hardware
03602	Subaru 04+ Sti Oe TMIC Inlet Base Flange For DV Use Only
03603	Subaru 04+ Sti TMIC Discharge Recirc Adapter Flange For DV Use Only w/ Single Turbo

TURBO INTAKE

Part No.	Description
05012	Nissan GTR R35 Cold-Air Intake Kit In Polished Aluminum (My 2009 To 2011)
05600	Nissan GTR R35 Turbo Intake MAF Sensor Calibrated Inserts
05023	Genesis Coupe 2.0T Turbo Intake W/Filter And Hardware
05013	Nissan GTR R35 Cold-Air Intake Kit In Powder Coated Black (My 2009 To 2011)

ADAPTERS AND ACCESSORIES

Part No.	Description	Part No.	Description
	02600 Aluminum Weld-On Flange For SB and DV T6-6061		02607 1" Adapters For Synchronic BOV Use Only (2 Pcs Kit)
	02601 Stainless Steel Weld-On Flange For SB And DV		02608 1.25" Inlet Or Discharge Hose Adapter For SB And DV
	02602 Greddy Style Adapter Flange For Bolt-On Conversion To SB And DV		02609 1" Inlet Or Discharge Flange (Black) For SB & DV
	02603 HKS ssqv Adapter Flange For Bolt-On Conversion To SB And DV		02610 1" Discharge Flange (Silver) For Synchronic SB BOV Use Only
	02604 Anti-Stall Valve Kit For SB Use Only		02611 1.25" Discharge Flange (Silver) For Synchronic SB BOV Use Only
	02605 Tial BOV Adapter Flange For Bolt-On Conversion To SB And DV		03602 Subaru 04+ Sti Oe TMIC Inlet Base Flange For DV Use Only
	02606 Mitsu/Mazdaspeed/ Nissan GTR Adapter Flange For Bolt-On Conversion To SB And DV		03603 Subaru 04+ Sti TMIC Discharge Recirc Adapter Flange For DV Use Only with Single Turbo

BOOST CONNECT

If you are in the market for high quality, high temperature resistant hoses and fittings, keep these two important lessons in mind: ***If the color of the hose is NOT white, then it is NOT high-temp hose. If the fittings are NOT all metal construction, then they are NOT high-temp fittings.***

- Pneumatic fittings eliminate the need for hose clamps or zip ties to secure lines
- All threaded Pneumatic Fittings are 1/8th NPT
- All hoses (High Temp and Low Temp) are Standard 6mm OD
- Locking Hose connections that eliminates zip tied silicone hose

HIGH TEMP:	MEDIUM TO LOW TEMP:
<ul style="list-style-type: none"> • All metal nickel-plated pneumatic brass fittings • PTFE hose designed to withstand high temperatures • PTFE specs: -292°F to 500°F at 100 psi, withstands cryogenic to 700°F + <p><i>High</i></p>	<ul style="list-style-type: none"> • Pneumatic polypropylene fittings • Polyurethane hose for medium to low temperature applications • Polyurethane specs: 20°F to 140°F at 100 psi, withstands -58°F to 212°F <p><i>Low</i></p>

Part No.	Description
08600	3 Meters High Temp Hose White (500F)
08601	50 Meters High Temp Hose White (500F)
08602	3 Meters Low Temp Hose Black (140F)
08603	3 Meters Low Temp Hose Blue (140F)
08604	3 Meters Low Temp Hose Red (140F)
08605	50 Meters Low Temp Hose Black (140F)
08606	50 Meters Low Temp Hose Blue (140F)
08607	50 Meters Low Temp Hose Red (140F)

Part No.	Description
08010	Low/High Temp Boost Connect Kit With Black And White Hose (140F+500F)
08011	Low/High Temp Boost Connect Kit With Blue And White Hose (140F+500F)
08012	Low/High Temp Boost Connect Kit With Red And White Hose (140F+500F)
08013	High Temp Boost Connect Kit (500F)

Part No.	Description
08022	Low/Med Temp Boost Connect Kit With Black Hose (140F)
08023	Low/Med Temp Boost Connect Kit With Blue Hose (140F)
08024	Low/Med Temp Boost Connect Kit With Red Hose (140F)



EXHAUST SYSTEMS

Synapse has developed these limited edition exhaust systems in the course of our development activities. These designs are hand crafted to our unique specifications. By utilizing a philosophy that each combustion event is like a packet traveling in the system, we are able to minimize flow restrictions and optimize overall system performance.



Part No.	Description
06011	Nissan GTR R35 Race Only Cat Back Exhaust (Made To Order Only)
06021	Nissan GTR R35 Cat Back Exhaust V2 With Resonators (Made To Order Only)
06031	Nissan GTR R35 Downpipes For Race Use Only (Made To Order Only)
06041	Nissan GTR R35 Midpipe For Race Use Only (Made To Order Only)
06051	Nissan GTR R35 Midpipe 2X High Flow Catalytic Converters (Made To Order Only)

MISSING LINK

Missing Link® is an innovative valve that is applied when turbo/supercharging normally aspirated engines. It works by blocking boost pressure from the factory ECU (computer). Once in boost, the valve closes off all pressure to the engine's MAP sensor and then uses the principle of Diffusion to equalize the MAP to ambient barometric pressure in order to simulate a wide open throttle condition.

- Eliminates Boost Related Check Engine Lights
- Enforces a Smooth Vacuum-to-Boost Transition
- Eliminates In-Cabin Gas Vapor Characteristic of Bleed Valves
- Allows for Infinitely Adjustable Boost Pressures without Valve Adjustment
- Superior to Voltage Limiters
- Protects MAP Sensor From Boost Pressure
- Automatic Compensation for Changes in Altitude and Barometric Pressure
- Filtered Air Intake for Near Stock Idle Quality and Longevity
- Eliminates Cluster of Fish Tank Check Valves



Part No.	Description
01019	Missing Link 001 Rev C, MAP Sensor Check Valve, B18,B16,D16,F22,H22,F20
01029	Missing Link 002 Rev C, Universal MAP Sensor Check Valve, Hose Connection
01039	Missing Link 003 Rev C, MAP Sensor Check Valve, Without Air Temp Sensor 420A
01049	Missing Link 004 Rev C, MAP Sensor Check Valve, K20,D17,S2K F22
01059	Missing Link 006 Rev C, MAP Sensor Check Valve, W/ Air Temp 420A

INTERCOOLER PIPING KIT

To compliment our popular BOV program, we are offering a full line of intercooler piping kits. Each application-specific kit has been meticulously engineered to be a **direct bolt-on installation, that does not require any cutting or modification.** This means that each kit can be installed by an experienced installer in a relatively short amount of time (about 4 hours).

These kits will maximize charge velocity and will reduce unnecessary bend radiuses for optimum performance. All of our pipes are 100% CNC mandrel bent and made in the USA. We also include high quality 3 Ply Reinforced Silicone Hose Couplers, Stainless Steel T-Bolt Clamps, a Synchronic BOV/DV, all necessary mounting hardware and installation instructions. Each application is designed to maintain the proper recirculation of the Diverter Valve for maximum performance and daily drivability. Some kits are designed to work directly with the OEM airbox for a stealth appearance.

Part No.	Description
07020	Mitsu Evo 8-9 IC Pipe Kit No DV/BOV In Black For Use With Oem Battery
07040	Mitsu Evo 8-9 IC Pipe Kit No DV/BOV In Black For Use W/ Race (Sm) Bat.
07060	Mitsu Evo X IC Pipe Kit No DV/BOV, W/ Intake In Powder Coated Black
07071	Synapse Engineering FMIC Kit For 07 - 09 (1St Gen) Mazdaspeed 3 With Sil/Blk BOV
07090	Nissan GTR R35 IC Piping Kit No DV/BOV In Powder Coated Black
07100	Mitsu Evo 8-9 IC Pipe Kit No DV/BOV In Black For Use W/ Oe Bat. (Speeddensity)
07120	Mitsu Evo 8-9 IC Pipe Kit No SB/DV Black For Race (Sm) Bat. (Speeddensity)
07140	Mitsu Evo X IC Pipe Kit No SB/DV In Powder Coated Black (Speed Density)



SINGLE CHARGE PIPES WITH COUPLERS

Part No.	Description
07162	Mitsubishi Evo 8-9 LICP Kit In Polished Aluminum
07163	Mitsubishi Evo 8-9 LICP Kit In Powder Coated Black
07172	Mitsubishi Evo X UICP Kit In Polished Aluminum
07173	Mitsubishi Evo X UICP In Powder Coated Black
07183	Charge Pipe (Only) Kit For 2011+ Nissan Juke 1.6L Turbo



 **SYNAPSE**
ENGINEERING