

Waukesha gas engines CM&U Product Catalog

7/22/2019

VHP*	VGF	275GL/ATGL
F2895G	F18GL	12V-AT27GL
F2895GL	F18GSI	16V-AT27GL
F2895GSI	H24GL	
F3521G	H24GSI	
F3521GL	L36GL	
F3521GSI	L36GSI	
F3514/3524GSI	P48GL	
L5790G	P48GSI	
L5790GL		
L5790GSI		
L5794LT		
L5794GSI		
L7042G		
L7042GL		
L7042GSI		
L7044GSI		
P9390GL		
P9390GSI		

For more information click on the links below

You will need to be logged into the portal for the following links to work.

Upgrade your Waukesha VHP S2 engine with S4 technology

Advanced Crankcase Breather Upgrade for Waukesha VHP gas engines

ESM engine system manager control upgrade for Waukesha engines

Waukesha Series 2 VHP gas engines lean-burn upgrade

VHP AFR2 Air-fuel ratio control for Waukesha rich-burn gas engines

Waukesha emPact Emission Control System Upgrade

VGF Lean-Burn Cylinder Head Upgrade

VHP Extender Upgrade

ESM Harness Upgrade

VHP Air Cleaner Upgrade

VGF GL to GSI Conversion

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Model ship dates and product scope are approximate. The actual CM&U scope and quotation will depend on engine serial number and current configuration of the engine being converted. Contact Waukesha sales manager for more information.

F2895G

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 conversions (Click here for more information)							
Stage I reUp	F2895G	1985 - 2000	Series Four upgrade	reUp Series Four cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	Contact Waukesha for BOM
Stage Ix reUp	F2895G	1985 - 2000	xCooled upgrade	reUp xCooled cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	Contact Waukesha for BOM
Stage Ix	F2895G	1985 - 2000	xCooled upgrade	New xCooled cylinder heads, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	Contact Waukesha for BOM
Stage III Plus <i>model conversion</i>	F2895G	1998 - 2000	F3524GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, intercooler, wastegate, ESM2, AFR2 <i>Requires increasing crankcase cylinder bore</i>	Up to 464 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV Plus <i>model conversion</i>	F2895G	1985 - 1998	F3524GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, intercooler, wastegate, ESM2, AFR2, crankshaft, connecting rods <i>Requires increasing crankcase cylinder bore</i>	Up to 464 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	Converted F3524GSI with AFR2	1985 - 2000	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring.	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495817G

Gas Regulator

	F2895G	1985 - 2000	Fisher S-200 gas regulator replacement	Fisher S-200 gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete S-200 gas regulators	S-200 gas regulator maintenance	(1) G-962-533
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F2895GL

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 GL to GSI conversions (Click here for more information)							
Stage III Plus <i>model conversion</i>	F2895GL	1998 - 2001	F3524GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, AFR2 <i>Requires increasing crankcase cylinder bore</i>	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 233 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV Plus <i>model conversion</i>	F2895GL	1985 - 1998	F3524GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, AFR2, crankshaft, connecting rods <i>Requires increasing crankcase cylinder bore</i>	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 233 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
GL Extended Life Cylinder Head Rebuild (Click here for more information)							
Stage I	F2895GL	1985-2001	S2GL cylinder head rebuild kit	Rebuild kit with new exhaust valve, rotators, seats and springs.	60% longer time between top end interval	Top end overhaul	(6) G-962-1150
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	Converted F3524GSI with AFR2	1985 - 2001	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring.	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495817G

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F2895GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 conversions (Click here for more information)							
Stage I reUp	F2895GSI	1985 - 2000	Series Four upgrade	reUp Series Four cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	Contact Waukesha for BOM
Stage Ix reUp	F2895GSI	1985 - 2000	xCooled upgrade	reUp xCooled cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	Contact Waukesha for BOM
Stage Ix	F2895GSI	1985 - 2000	xCooled upgrade	New xCooled cylinder heads, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	Contact Waukesha for BOM
Stage III Plus <i>model conversion</i>	F2895GSI	1998 - 2000	F3524GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, AFR2 <i>Requires increasing crankcase cylinder bore</i>	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 233 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV Plus <i>model conversion</i>	F2895GSI	1985 - 1998	F3524GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, AFR2, crankshaft, connecting rods <i>Requires increasing crankcase cylinder bore</i>	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 233 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	Converted F3524GSI with AFR2	1985 - 2000	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring.	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495817G
Gas Regulator							
	F2895GSI	2003 - 2005	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1143

F3521G

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 conversions (Click here for more information)							
Stage I reUp	F3521G	1985 - 2014	Series Four upgrade	reUp Series Four cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-544
Stage Ix reUp	F3521G	1985 - 2014	xCooled upgrade	reUp xCooled cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-544X
Stage Ix	F3521G	1985 - 2014	xCooled upgrade	New xCooled cylinder heads, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) G-962-544X
Stage III <i>model conversion</i>	F3521G	1998 - 2014	F3524GSI conversion Series 4 upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, intercooler, wastegate, ESM2, AFR2	Up to 384 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV <i>model conversion</i>	F3521G	1985 - 1998	F3524GSI conversion Series 4 upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, intercooler, wastegate, ESM2, AFR2, crankshaft, connecting rods	Up to 384 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	Converted F3524GSI with AFR2	1985 - 2014	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring.	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495817G
Gas Regulator							
	F3521G	1985 - 2014	Fisher S-200 gas regulator replacement	Fisher S-200 gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete S-200 gas regulators	S-200 gas regulator maintenance	(1) G-962-533

F3521GL

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 GL to GSI conversions (Click here for more information)							
Stage III <i>model conversion</i>	F3521GL	1998 - 2006	F3524GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, AFR2	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 233 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV <i>model conversion</i>	F3521GL	1985 - 1998	F3524GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, AFR2, crankshaft, connecting rods	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 233 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
GL Extended Life Cylinder Head Rebuild (Click here for more information)							
Stage I	F3521GL	1985-2006	S2GL cylinder head rebuild kit	Rebuild kit with new exhaust valve, rotators, seats and springs.	60% longer time between top end interval	Top end overhaul	(6) G-962-1150
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	Converted F3524GSI with AFR2	1985 - 2006	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring.	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495817G
Gas Regulator							
	F3521GL	2003 - 2006	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1143

F3521GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 conversions (Click here for more information)							
Stage I reUp	F3521GSI	1985 - 2005	Series Four upgrade	reUp Series Four cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-544
Stage Ix reUp	F3521GSI	1985 - 2005	xCooled upgrade	reUp xCooled cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-544X
Stage Ix	F3521GSI	1985 - 2005	xCooled upgrade	New xCooled cylinder heads, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) G-962-544X
Stage II reUp	F3521GSI	1985 - 2005	Series Four upgrade with power cylinders	reUp Series Four cylinder heads and rocker arms, head components, oil header, new piston, rings, liner (PRL) , CEC ignition harness, ignition coils	Up to 60% lifecycle extension, 66% reduction in oil consumption	Top / Bottom Overhaul	(1) REM-G-962-545
Stage IIx reUp	F3521GSI	1985 - 2005	xCooled upgrade with power cylinders	reUp xCooled cylinder heads and rocker arms, head components, oil header, new piston, rings, liner (PRL) , CEC ignition harness, ignition coils	Up to 60% lifecycle extension, 66% reduction in oil consumption	Top / Bottom Overhaul	(1) REM-G-962-545X
Stage IIx	F3521GSI	1985 - 2005	xCooled upgrade with power cylinders	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL) , CEC ignition harness, ignition coils	Up to 60% lifecycle extension, 66% reduction in oil consumption	Top / Bottom Overhaul	(1) G-962-545X
Stage III <i>model conversion</i>	F3521GSI	1998 - 2005	F3524GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, AFR2	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 100 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV <i>model conversion</i>	F3521GSI	1985 - 1998	F3524GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, AFR2, crankshaft, connecting rods	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 100 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI industrial PC	Top / Bottom Overhaul	Contact Waukesha for BOM

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F3521GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
emPact (for engines converted to Series Four GSI with ESM2) (Click here for more information)							
Stage I	converted F3524GSI with AFR2	1985 - 2005	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring.	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495817G
Gas Regulator							
	F3521GSI	2003 - 2005	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1143

F3514GSI/F3524GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
xCooled Cylinder head upgrade							
	F3514GSI/ F3524GSI	1998 - 2017	xCooled cylinder head upgrade	xCooled cylinder head with enhanced cooling	Enhanced cooling reduces cylinder head component temperatures by up to 40%, reducing thermal stresses to improve cylinder head reliability in harsh conditions operating on high BTU fuels	Top end overhaul	(6) NWC-AA205002H
SPARC Cylinder head conversion (Click here for more information)							
	F3514GSI/ F3524GSI	1998 - 2015	SPARC cylinder head conversion	New spark plug sleeve and spark plug sleeve extension to new SPARC system	Improved spark plug sleeve sealing, better corrosion resistance, new o-ring sealing new design prevents improper sleeve installation	Cylinder head maintenance	(6) G-962-1117
ESM2 with AFR2 conversions (Click here for more information)							
Stage I	F3514GSI/ F3524GSI	1998 - 2000	ESM2	ESM2, harnesses and mounting brackets, power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, flywheel, flywheel housing, gear housing, cam timing disc, IPMD2.	ESM2 - Increased uptime with knock detection, fault diagnostics, troubleshooting guide, improved engine performance with factory calibrated operating parameters. HMI, advanced diagnostics, remote monitoring capability, integrated exhaust and main bearing thermocouples AFR2 - includes AFR2 benefits IPMD2 - Extended spark plug life up to 4,000 operating hour	Existing control system maintenance or failure	(1) G-962-1172
Stage II	F3514GSI/ F3524GSI	2000 - 2003	ESM2	ESM2, harnesses and mounting brackets, power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, IPMD2.			(1) G-962-1173
Stage III	F3514GSI/ F3524GSI	2003 - 2010	ESM2	ESM2, harnesses and mounting brackets, power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, new gas regulators, IPMD2.			(1) G-962-1174
Stage IV	F3514GSI/ F3524GSI	2010 - 2016	ESM2	ESM2, harnesses and mounting brackets, power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, IPMD2.			(1) G-962-1173

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F3514GSI/F3524GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Advanced Breather System (Click here for more information)							
	F3514GSI/ F3524GSI	1998 - 2018	Advanced Breather System	Closed breather system with centrifugal oil separation and automatic regulating valve	No adjustment needed for changes in speed/load. No maintenance until major overhaul	Anytime	(1) G-962-1193
emPact (for engines shipped with or upgraded to ESM2) (Click here for more information)							
	F3514GSI/ F3524GSI	Any model with ESM2	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring. Requires advanced breather and ESM2.	emPact - Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.	Emissions regulations, repair	(1) 495817G
IPMD2 and spark plug upgrade							
	F3524GSI	Any model with ESM2	IPMD2	New Ignition Power Module with Diagnostics (IPMD2) with optimized voltage profile, one new set of non-precious metal spark plugs	Extended spark plug life up to 4,000 operating hours. Improved combustion to reduce cylinder misfire. Simple "plug and play" installation without any software changes	Spark plug replacement	(1) G-962-1235

L5790G

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 conversions (Click here for more information)							
Stage I reUp	L5790G	1985 - 2014	Series Four upgrade	reUp Series Four cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-551
Stage Ix reUp	L5790G	1985 - 2014	xCooled upgrade	reUp xCooled cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-551X
Stage Ix	L5790G	1985 - 2014	xCooled upgrade	New xCooled cylinder heads, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) G-962-551X
Stage III <i>model conversion</i>	L5790G	1998 - 2014	L5794GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, intercooler, wastegate, ESM2, advanced breather	Up to 630 more BHP, ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage III Plus <i>model conversion</i>	L5790G	1998 - 2014	L7044GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, intercooler, wastegate, ESM2, advanced breather <i>Requires increasing crankcase cylinder bore</i>	Up to 930 more BHP, ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV <i>model conversion</i>	L5790G	1985 - 1998	L5794GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather, crankshaft, connecting rods	Up to 630 more BHP, ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV Plus <i>model conversion</i>	L5790G	1985 - 1998	L7044GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather, crankshaft, connecting rods. <i>Requires increasing crankcase cylinder bore</i>	Up to 930 more BHP, ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	converted L5794GSI or L7044GSI	1985 - 2005	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring. Requires advanced breather	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495823B
Gas Regulator							
	L5790G	1985 - 2014	Fisher S-200 gas regulator replacement	Fisher S-200 gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete S-200 gas regulators	S-200 gas regulator maintenance	(1) G-962-534

L5790GL

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 GL to GSI conversions (Click here for more information)							
Stage III <i>model conversion</i>	L5790GL	1998 - 2005	L5794GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 165 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage III Plus <i>model conversion</i>	L5790GL	1998 - 2005	L7044GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather <i>Requires increasing crankcase cylinder bore</i>	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 465 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV <i>model conversion</i>	L5790GL	1985 - 1998	L5794GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather, crankshaft, connecting rods	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 165 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV Plus <i>model conversion</i>	L5790GL	1985 - 1998	L7044GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather, crankshaft, connecting rods <i>Requires increasing crankcase cylinder bore</i>	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 465 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
S2 to S4 GL to LT conversions (Click here for more information)							
Stage III <i>model conversion</i>	L5790GL	1998 - 2005	L5794LT conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM, advanced breather	Up to 25% lifecycle extension 60% reduction in oil consumption up to 235 more BHP ESM control with knock detection	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV <i>model conversion</i>	L5790GL	1985 - 1998	L5794LT conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM, advanced breather, crankshaft, connecting rods	Up to 25% lifecycle extension 60% reduction in oil consumption up to 235 more BHP ESM control with knock detection	Top / Bottom Overhaul	Contact Waukesha for BOM

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
GL Extended Life Cylinder Head Rebuild (Click here for more information)							
Stage I	L5790GL	1985-2005	S2GL cylinder head rebuild kit	Rebuild kit with new exhaust valve, rotators, seats and springs.	60% longer time between top end interval	Top end overhaul	(12) G-962-1150
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	converted L5794GSI or L7044GSI	1985 - 2005	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring. Requires advanced breather	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495823B
Advanced Breather System (Click here for more information)							
	L5790GL	1985 - 2005	Advanced Breather System, shallow oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-541
Extender Series (Click here for more information)							
	L5790GL	1985 - 2005	Extender Series for shallow oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration	High efficiency air cleaner with 70% more dirt holding capacity, Microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters.		Contact Waukesha for BOM
	L5790GL	1985 - 2005	Extender Series with deep sump oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration, deep sump oil pan	High efficiency air cleaner with 70% more dirt holding capacity, microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters, 2x oil capacity to extend oil change intervals		Contact Waukesha for BOM

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Gas Regulator							
	L5790GL	2003 - 2005	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1147
Air Cleaner (Click here for more information)							
Stage I	L5790GSI	1985 - 2005	Improved air cleaner for standard rain shield applications	Bolted hinge blow-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1153
Stage II	L5790GSI	1985 - 2005	Improved air cleaner for inertia precleaner applications	Bolted hinge blow-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1157
Stage III	L5790GSI	1985 - 2005	Improved air cleaner for remote air inlet applications	Bolted hinge blow-thru air cleaner with inverted 8 inch air inlet connection	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. Inverted 8 inch air inlet connection allows use of piping for external air inlet	Air cleaner maintenance	(1) G-962-1159

L5790GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 conversions (Click here for more information)							
Stage I reUp	L5790GSI	1985 - 2005	Series Four upgrade	reUp Series Four cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-551
Stage Ix reUp	L5790GSI	1985 - 2005	xCooled upgrade	reUp xCooled cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-551X
Stage Ix	L5790GSI	1985 - 2005	xCooled upgrade	New xCooled cylinder heads, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) G-962-551X
Stage II reUp	L5790GSI	1985 - 2005	Series Four upgrade	reUp Series Four cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-552
Stage Iix reUp	L5790GSI	1985 - 2005	xCooled upgrade	reUp xCooled cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-552X
Stage Iix	L5790GSI	1985 - 2005	xCooled upgrade	New xCooled cylinder heads, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) G-962-552X
Stage III <i>model conversion</i>	L5790GSI	1998 - 2005	L5794GSI conversion Series 4 upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 165 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage III Plus <i>model conversion</i>	L5790GSI	1998 - 2005	L7044GSI conversion Series 4 upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather <i>Requires increasing crankcase cylinder bore</i>	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 465 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV <i>model conversion</i>	L5790GSI	1985 - 1998	L5794GSI conversion Series 4 upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather, crankshaft, connecting rods	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 165 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV Plus <i>model conversion</i>	L5790GSI	1985 - 1998	L7044GSI conversion Series 4 upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather, crankshaft, connecting rods <i>Requires increasing crankcase cylinder bore</i>	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 465 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM

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L5790GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	converted L5794GSI or L7044GSI	2010 - 2015	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring. Requires advanced breather	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495823B
Advanced Breather System (Click here for more information)							
	L5790GSI	1985 - 2005	Advanced Breather System, shallow oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-541
Extender Series (Click here for more information)							
	L5790GSI	1985 - 2005	Extender Series for shallow oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration	High efficiency air cleaner with 70% more dirt holding capacity, Microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters.		Contact Waukesha for BOM
	L5790GSI	1985 - 2005	Extender Series with deep sump oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration, deep sump oil pan	High efficiency air cleaner with 70% more dirt holding capacity, Microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters, 2x oil capacity to extend oil change intervals		Contact Waukesha for BOM
Gas Regulator							
	L5790GSI	2003 - 2005	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1146

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Air Cleaner (Click here for more information)							
Stage I	L5790GSI	1985 - 2005	Improved air cleaner for standard rain shield applications	Bolted hinge blow-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1153
Stage II	L5790GSI	1985 - 2005	Improved air cleaner for inertia precleaner applications	Bolted hinge blow-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1157
Stage III	L5790GSI	1985 - 2005	Improved air cleaner for remote air inlet applications	Bolted hinge blow-thru air cleaner with inverted 5.5 inch air inlet connection	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. Inverted 5.5 inch air inlet connection allows use of piping for external air inlet	Air cleaner maintenance	(1) G-962-1158

L5794LT

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
SPARC Cylinder head conversion (Click here for more information)							
	L5794LT	1998 - 2015	SPARC cylinder head conversion	New spark plug sleeve and spark plug sleeve extension to new SPARC system	Improved spark plug sleeve sealing, better corrosion resistance, new o-ring sealing new design prevents improper sleeve installation	Cylinder head maintenance	(12) G-962-1117
LT to GSI conversion (Click here for more information)							
Stage III <i>model conversion</i>	L5794LT	2004 - current	L5794GSI conversion	reUp Series Four cylinder heads and rocker arms, new piston, rings, liner (PRL), turbocharger, wastegate, ESM calibration, AFR2, advanced breather	Rich-burn fuel flexibility Low emissions capability with emPact AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul, Emissions regulation	Contact Waukesha for BOM
Stage III <i>model conversion</i>	L5794LT	2000 - 2004	L5794GSI conversion with ESM2	reUp Series Four cylinder heads and rocker arms, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather	Rich-burn fuel flexibility Low emissions capability with emPact ESM2 control with knock detection AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul, Emissions regulation	Contact Waukesha for BOM
Stage III Plus <i>model conversion</i>	L5794LT	2004 - current	Conversion to L7044GSI	reUp cylinder heads and rocker arms, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM calibration, advanced breather. <i>Requires increasing crankcase cylinder bore</i>	Up to 10% lifecycle extension, 66% reduction in oil consumption, Up to 230 more BHP , AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage III Plus <i>model conversion</i>	L5794LT	2000 - 2004	Conversion to L7044GSI with ESM2	reUp Series Four cylinder heads and rocker arms, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather <i>Requires increasing crankcase cylinder bore</i>	Up to 10% lifecycle extension, 66% reduction in oil consumption, Up to 230 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM

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L5794LT

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
ESM (Click here for more information)							
Stage II	L5794LT	2000 - 2004	ESM	ESM, Harnesses and mounting brackets	Increased uptime with knock detection, fault diagnostics, troubleshooting guide, extended spark plug life, improved engine performance with factory calibrated operating parameters. Latest harness design simplifies fault troubleshooting and maintenance	Existing control system maintenance or failure	G-962-1206
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	converted L5794GSI	engines already upgraded to L5794GSI	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring. Requires advanced breather	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.	Emissions regulations, repair or replacement of AFR1 stepper motors, harnesses, or gas regulators	(1) 495823B
ESM harness upgrade (Click here for more information)							
Stage I	L5794LT	2003 - 2007	ESM wireways and power distribution box	New wireway harnesses and mounting brackets, new knock sensors, ECU calibration, new ignition coils with integrated harness, power distribution box and mounting brackets.	Redesigned harness simplifies fault troubleshooting and maintenance. New power distribution box simplifies customer wiring connections and includes circuit fault protection, fault indicators, fault reset functions, enhanced noise suppression, and water protection improvements.	Repair or replacement of harnesses or power distribution box	G-962-1207
Stage III	L5794LT	2007 - 2015	ESM wireways	New wireway harnesses and mounting brackets, new ignition coils with integrated harness		Repair or replacement of harnesses	(1) G-962-1127

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Advanced Breather System (Click here for more information)							
	L5794LT	2000 - 2015	Advanced Breather System for shallow oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-541
	L5794LT	2007 - 2015	Advanced Breather System for deep sump oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-540
Extender Series (Click here for more information)							
	L5794LT	1998 - 2007	Extender Series for shallow oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration	High efficiency air cleaner with 70% more dirt holding capacity, Microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters.		Contact Waukesha for BOM
	L5794LT	1998 - 2007	Extender Series with deep sump oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration, deep sump oil pan	High efficiency air cleaner with 70% more dirt holding capacity, microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters, 2x oil capacity to extend oil change intervals		Contact Waukesha for BOM
Gas Regulator							
	L5794LT	2003 - 2007	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1147

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Air Cleaner (Click here for more information)							
Stage I	L5794LT	1998 - 2015	Improved air cleaner for standard rain shield applications	Bolted hinge blow-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1153
Stage II	L5794LT	1998 - 2015	Improved air cleaner for inertia precleaner applications	Bolted hinge blow-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1157
Stage III	L5794LT	1998 - 2015	Improved air cleaner for remote air inlet applications	Bolted hinge blow-thru air cleaner with inverted 8 inch air inlet connection	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. Inverted 8 inch air inlet connection allows use of piping for external air inlet	Air cleaner maintenance	(1) G-962-1159
Stage I	L5794LTD	1998 - 2015	Improved air cleaner for standard rain shield applications	Bolted hinge draw-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1160
Stage II	L5794LTD	1998 - 2015	Improved air cleaner for inertia precleaner applications	Bolted hinge draw-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1161

L5794GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
xCooled Cylinder head upgrade							
	L5794GSI	1998 - 2017	xCooled cylinder head upgrade	xCooled cylinder head with enhanced cooling	Enhanced cooling reduces cylinder head component temperatures by up to 40%, reducing thermal stresses to improve cylinder head reliability in harsh conditions operating on high BTU fuels	Top end overhaul	(12) NWC-AA205002H
SPARC Cylinder head conversion (Click here for more information)							
	L5794GSI	1998 - 2015	SPARC cylinder head conversion	New spark plug sleeve and spark plug sleeve extension to new SPARC system	Improved spark plug sleeve sealing, better corrosion resistance, new o-ring sealing new design prevents improper sleeve installation	Cylinder head maintenance	(12) G-962-1117

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
ESM2 with AFR2 conversions (Click here for more information)							
	L5794GSI	1998 - 2000	ESM2 with AFR2 (for use with shallow sump oil pan)	ESM2, Harnesses and mounting brackets, Power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, flywheel, flywheel housing, gear housing, cam timing disc, engine remote monitoring capability utilizing Waukesha's Asset Performance Management (APM) system, IPMD2.			(1) G-962-1185
	L5794GSI	2000 - 2003	ESM2 with AFR2 (for use with shallow sump oil pan)	ESM2, Harnesses and mounting brackets, Power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, engine remote monitoring capability utilizing Waukesha's Asset Performance Management (APM) system, IPMD2.	ESM2 - Increased uptime with knock detection, fault diagnostics, troubleshooting guide, improved engine performance with factory calibrated operating parameters. HMI, advanced diagnostics, remote monitoring capability, integrated exhaust and main bearing thermocouples		(1) G-962-1187
	L5794GSI	2003 - 2007	ESM2 with AFR2 (for use with shallow sump oil pan)	ESM2, Harnesses and mounting brackets, Power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, new gas regulators, engine remote monitoring capability utilizing Waukesha's Asset Performance Management (APM) system, IPMD2.	AFR2 - Simplified step-by-step air/fuel ratio setup from HMI screen, automatic adjustments to changes in operating conditions, simplified fuel control valve provides fast response for changes in ambient and operating conditions, redesigned harness simplifies fault troubleshooting and maintenance	Existing control system maintenance or failure	(1) G-962-1186
	L5794GSI	2007 - 2010	ESM2 with AFR2 (for use with deep sump oil pan)	ESM2, Harnesses and mounting brackets, Power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, new gas regulators, engine remote monitoring capability utilizing Waukesha's Asset Performance Management (APM) system, IPMD2.	IPMD2 - Extended spark plug life up to 4,000 operating hours		(1) G-962-1188
	L5794GSI	2010-2016	ESM2 with AFR2 (for use with deep sump oil pan)	ESM2, Harnesses and mounting brackets, Power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, engine remote monitoring capability utilizing Waukesha's Asset Performance Management (APM) system, IPMD2.			(1) G-962-1189
emPact (for engines shipped with or upgraded to ESM2) (Click here for more information)							
	L5794GSI	Any model with ESM2	emPact	emPact for 0.15g Nox, post catalyst O2 sensors with catalyst health monitoring. Requires advanced breather and ESM2.	emPact - Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.	Emissions regulations, repair	(1) 495823B

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
ESM harness upgrade (Click here for more information)							
Stage I	L5794GSI	2003 - 2007	ESM wireways and power distribution box	New wireway harnesses and mounting brackets, new knock sensors, new ignition coils with integrated harness, power distribution box and mounting brackets.	Redesigned harness simplifies fault troubleshooting and maintenance. New power distribution box simplifies customer wiring connections and includes circuit fault protection, fault indicators, fault reset functions, enhanced noise suppression, and water protection improvements.	Repair or replacement of harnesses or power distribution box	(1) G-962-1209
Stage III	L5794GSI	2007 - 2015	ESM wireways	New wireway harnesses and mounting brackets, new ignition coils with integrated harness		Repair or replacement of harnesses	(1) G-962-1118
Advanced Breather System (Click here for more information)							
	L5794GSI	1998 - 2015	Advanced Breather System for shallow oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-541
	L5794GSI	2007 - 2015	Advanced Breather System for deep sump oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-540
IPMD2 and spark plug upgrade							
	L5794GSI	Any model with ESM2	IPMD2	New Ignition Power Module with Diagnostics (IPMD2) with optimized voltage profile, one new set of non-precious metal spark plugs	Extended spark plug life up to 4,000 operating hours. Improved combustion to reduce cylinder misfire. Simple "plug and play" installation without any software changes	Spark plug replacement	(1) G-962-1236

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Extender Series (Click here for more information)							
	L5794GSI	1998 - 2007	Extender Series for shallow oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration	High efficiency air cleaner with 70% more dirt holding capacity, Microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters.		Contact Waukesha for BOM
	L5794GSI	1998 - 2007	Extender Series with deep sump oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration, deep sump oil pan	High efficiency air cleaner with 70% more dirt holding capacity, microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters, 2x oil capacity to extend oil change intervals		Contact Waukesha for BOM
Gas Regulator							
	L5794GSI	2007 - 2010	AFR2 with Mooney gas regulator replacement	AFR2, new wireway harnesses and mounting brackets, conversion from Mooney gas regulators, single fuel inlet piping, fuel control valves, HMI, O2 sensors, new wastegates differential pressure system	Simplified step-by-step air/fuel ratio setup from HMI screen, automatic adjustments to changes in operating conditions, simplified fuel control valve provides fast response for changes in ambient and operating conditions, redesigned harness simplifies fault troubleshooting and maintenance	Repair or replacement of AFR1 stepper motors or Mooney gas regulator maintenance	(1) G-962-1120
	L5794GSI	2003 - 2007	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets. For use on engines without ESM.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1146

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Air Cleaner (Click here for more information)							
Stage I	L5794GSI	1998 - 2015	Improved air cleaner for standard rain shield applications	Bolted hinge blow-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1153
Stage II	L5794GSI	1998 - 2015	Improved air cleaner for inertia precleaner applications	Bolted hinge blow-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1157
Stage III	L5794GSI	1998 - 2015	Improved air cleaner for remote air inlet applications	Bolted hinge blow-thru air cleaner with inverted 5.5 inch air inlet connection	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. Inverted 5.5 inch air inlet connection allows use of piping for external air inlet	Air cleaner maintenance	(1) G-962-1158
Stage I	L5794GSID	1998 - 2015	Improved air cleaner for standard rain shield applications	Bolted hinge draw-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1160
Stage II	L5794GSID	1998 - 2015	Improved air cleaner for inertia precleaner applications	Bolted hinge draw-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1161

L7042G

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 conversions (Click here for more information)							
Stage I reUp	L7042G	1985 - 2014	Series Four upgrade	reUp Series Four cylinder heads and rocker arms,, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-536
Stage Ix reUp	L7042G	1985 - 2014	xCooled upgrade	reUp xCooled cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-536X
Stage Ix	L7042G	1985 - 2014	xCooled upgrade	New xCooled cylinder heads, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) G-962-536X
Stage III <i>model conversion</i>	L7042G	1998 - 2014	L7044GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, intercooler, wastegate, ESM2, advanced breather	Up to 768 more BHP, ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV <i>model conversion</i>	L7042G	1985 - 1998	L7044GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, intercooler, wastegate, ESM2, advanced breather, crankshaft, connecting rods	Up to 768 more BHP, ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	converted L7044GSI	2010 - 2015	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring. Requires advanced breather	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495823B
Gas Regulator							
	L7042G	1985 - 2014	Fisher S-200 gas regulator replacement	Fisher S-200 gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete S-200 gas regulators	S-200 gas regulator maintenance	(1) G-962-534

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 GL to GSI conversions (Click here for more information)							
Stage III <i>model conversion</i>	L7042GL	1998 - 2015	L7044GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 200 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV <i>model conversion</i>	L7042GL	1985 - 1998	L7044GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather, crankshaft, connecting rods	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 200 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
GL Extended Life Cylinder Head Rebuild (Click here for more information)							
Stage I	L7042GL	1985-2015	S2GL cylinder head rebuild kit	Rebuild kit with new exhaust valve, rotators, seats and springs.	60% longer time between top end interval	Top End Overhaul	(12) G-962-1150
ESM (Click here for more information)							
Stage I	L7042GL	1985 - 2000	ESM	ESM, Harnesses and mounting brackets, flywheel, flywheel housing, gear housing, cam timing disc.	ESM - Increased uptime with knock detection, fault diagnostics, troubleshooting guide, extended spark plug life, improved engine performance with factory calibrated operating parameters.	Existing control system maintenance or failure	G-962-1210
Stage II	L7042GL	2000 - 2005	ESM	ESM, Harnesses and mounting brackets		Existing control system maintenance or failure	G-962-1211

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
emPact (for engines converted to S4 GSI with ESM2) (Click here for more information)							
Stage I	converted L7044GSI	2010 - 2015	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring. Requires advanced breather.	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) 495823B
ESM harness upgrade (Click here for more information)							
Stage I	L7042GL	2005 - 2007	ESM wireways and power distribution box	New wireway harnesses and mounting brackets, new knock sensors, ECU calibration, power distribution box and mounting brackets, and ignition coil harnesses.	Redesigned harness simplifies fault troubleshooting and maintenance. New power distribution box simplifies customer wiring connections and includes circuit fault protection, fault indicators, fault reset functions, enhanced noise suppression, and water protection improvements.	Repair or replacement of harnesses or power distribution box	(1) G-962-1212
Stage III	L7042GL	2007 - 2015	ESM wireways	New wireway harnesses and mounting brackets, and ignition coil harnesses.		Repair or replacement of harnesses	(1) G-962-1128
Advanced Breather System (Click here for more information)							
	L7042GL	1985 - 2015	Advanced Breather System for shallow oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-541
	L7042GL	2007 - 2015	Advanced Breather System for deep sump oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-540

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Extender Series (Click here for more information)							
	L7042GL	1985 - 2007	Extender Series for shallow oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration	High efficiency air cleaner with 70% more dirt holding capacity, Microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters.		Contact Waukesha for BOM
	L7042GL	1985 - 2007	Extender Series with deep sump oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration, deep sump oil pan	High efficiency air cleaner with 70% more dirt holding capacity, microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters, 2x oil capacity to extend oil change intervals		Contact Waukesha for BOM
Gas Regulator							
	L7042GL	2003 - 2010	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1147

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Air Cleaner (Click here for more information)							
Stage I	L7042GL	1985 - 2015	Improved air cleaner for standard rain shield applications	Bolted hinge blow-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1153
Stage II	L7042GL	1985 - 2015	Improved air cleaner for inertia precleaner applications	Bolted hinge blow-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1157
Stage III	L7042GL	1985 - 2015	Improved air cleaner for remote air inlet applications	Bolted hinge blow-thru air cleaner with inverted 8 inch air inlet connection	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. Inverted 8 inch air inlet connection allows use of piping for external air inlet	Air cleaner maintenance	(1) G-962-1159
Stage I	L7042GLD	1985 - 2015	Improved air cleaner for standard rain shield applications	Bolted hinge draw-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1160
Stage II	L7042GLD	1985 - 2015	Improved air cleaner for inertia precleaner applications	Bolted hinge draw-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1161

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 conversions (Click here for more information)							
Stage I reUp	L7042GSI	1985 - 2014	Series Four upgrade	reUp Series Four cylinder heads and rocker arms,, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-536
Stage Ix reUp	L7042GSI	1985 - 2014	xCooled upgrade	reUp xCooled cylinder heads and rocker arms, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) REM-G-962-536X
Stage Ix	L7042GSI	1985 - 2014	xCooled upgrade	New xCooled cylinder heads, head components, oil header, CEC ignition harness, ignition coils	Up to 60% lifecycle extension	Top End Overhaul	(1) G-962-536X
Stage II reUp	L7042GSI	1985 - 2014	Series Four upgrade with power cylinders	reUp Series Four cylinder heads and rocker arms, head components, oil header, new piston, rings, liner (PRL), CEC ignition harness, ignition coils	Up to 60% lifecycle extension, 66% reduction in oil consumption	Top / Bottom Overhaul	(1) REM-G-962-543
Stage Iix reUp	L7042GSI	1985 - 2014	xCooled upgrade with power cylinders	reUp xCooled cylinder heads and rocker arms, head components, oil header, new piston, rings, liner (PRL), CEC ignition harness, ignition coils	Up to 60% lifecycle extension, 66% reduction in oil consumption	Top / Bottom Overhaul	(1) REM-G-962-543X
Stage Iix	L7042GSI	1985 - 2014	xCooled upgrade with power cylinders	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), CEC ignition harness, ignition coils	Up to 60% lifecycle extension, 66% reduction in oil consumption	Top / Bottom Overhaul	(1) G-962-543X
Stage III <i>model conversion</i>	L7042GSI	1998 - 2014	L7044GSI conversion Series Four upgrade with power cylinders, power uprate	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 200 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM
Stage IV <i>model conversion</i>	L7042GSI	1985 - 1998	L7044GSI conversion Series Four upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), turbocharger, wastegate, ESM2, advanced breather, crankshaft, connecting rods	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 200 more BHP , ESM2 control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	Contact Waukesha for BOM

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
ESM harness upgrade (Click here for more information)							
Stage I	L7042GSI	2005 - 2007	ESM wireways and power distribution box	New wireway harnesses and mounting brackets, new knock sensors, ECU calibration, power distribution box and mounting brackets, and ignition coil harnesses.	Redesigned harness simplifies fault troubleshooting and maintenance. New power distribution box simplifies customer wiring connections and includes circuit fault protection, fault indicators, fault reset functions, enhanced noise suppression, and water protection improvements.	Repair or replacement of harnesses or power distribution box	(1) G-962-1209
Stage III	L7042GSI	2007 - 2014	ESM wireways	New wireway harnesses, mounting brackets, and ignition coil harnesses.		Repair or replacement of harnesses	(1) G-962-1118
Advanced Breather System (Click here for more information)							
	L7042GSI	1985 - 2014	Advanced Breather System for shallow oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-541
	L7042GSI	2007 - 2014	Advanced Breather System for deep sump oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-540

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Extender Series (Click here for more information)							
	L7042GSI	1985 - 2007	Extender Series for shallow oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration	High efficiency air cleaner with 70% more dirt holding capacity, Microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters.		Contact Waukesha for BOM
	L7042GSI	1985 - 2007	Extender Series with deep sump oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration, deep sump oil pan	High efficiency air cleaner with 70% more dirt holding capacity, microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters, 2x oil capacity to extend oil change intervals		Contact Waukesha for BOM
Gas Regulator							
	L7042GSI	2007 - 2010	AFR2 with Mooney gas regulator replacement	AFR2, new wireway harnesses and mounting brackets, conversion from Mooney gas regulators, single fuel inlet piping, fuel control valves, HMI, O2 sensors, new wastegates differential pressure system	Simplified step-by-step air/fuel ratio setup from HMI screen, automatic adjustments to changes in operating conditions, simplified fuel control valve provides fast response for changes in ambient and operating conditions, redesigned harness simplifies fault troubleshooting and maintenance	Repair or replacement of AFR1 stepper motors or Mooney gas regulator maintenance	(1) G-962-1120
	L7042GSI	2003 - 2007	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets. For use on engines without ESM.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1146

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Air Cleaner (Click here for more information)							
Stage I	L7042GSI	1985 - 2014	Improved air cleaner for standard rain shield applications	Bolted hinge blow-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1153
Stage II	L7042GSI	1985 - 2014	Improved air cleaner for inertia precleaner applications	Bolted hinge blow-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1157
Stage III	L7042GSI	1985 - 2014	Improved air cleaner for remote air inlet applications	Bolted hinge blow-thru air cleaner with inverted 5.5 inch air inlet connection	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. Inverted 5.5 inch air inlet connection allows use of piping for external air inlet	Air cleaner maintenance	(1) G-962-1158
Stage I	L7042GSID	1985 - 2014	Improved air cleaner for standard rain shield applications	Bolted hinge draw-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1160
Stage II	L7042GSID	1985 - 2014	Improved air cleaner for inertia precleaner applications	Bolted hinge draw-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1161

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
xCooled Cylinder head upgrade							
	L7044GSI	1998 - 2017	xCooled cylinder head upgrade	xCooled cylinder head with enhanced cooling	Enhanced cooling reduces cylinder head component temperatures by up to 40%, reducing thermal stresses to improve cylinder head reliability in harsh conditions operating on high BTU fuels	Top end overhaul	(12) NWC-AA205002H
SPARC Cylinder head conversion (Click here for more information)							
	L7044GSI	1998 - 2015	SPARC cylinder head conversion	New spark plug sleeve and spark plug sleeve extension to new SPARC system	Improved spark plug sleeve sealing, better corrosion resistance, new o-ring sealing new design prevents improper sleeve installation	Cylinder head maintenance	(12) G-962-1117

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
ESM2 with AFR2 conversions (Click here for more information)							
	L7044GSI	1998 - 2000	ESM2 with AFR2 (for use with shallow sump oil pan)	ESM2, Harnesses and mounting brackets, Power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, flywheel, flywheel housing, gear housing, cam timing disc, engine remote monitoring capability utilizing Waukesha's Asset Performance Management (APM) system, IPMD2.			(1) G-962-1185
	L7044GSI	2000 - 2003	ESM2 with AFR2 (for use with shallow sump oil pan)	ESM2, Harnesses and mounting brackets, Power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, engine remote monitoring capability utilizing Waukesha's Asset Performance Management (APM) system, IPMD2.	ESM2 - Increased uptime with knock detection, fault diagnostics, troubleshooting guide, improved engine performance with factory calibrated operating parameters. HMI, advanced diagnostics, remote monitoring capability, integrated exhaust and main bearing thermocouples		(1) G-962-1187
	L7044GSI	2003 - 2007	ESM2 with AFR2 (for use with shallow sump oil pan)	ESM2, Harnesses and mounting brackets, Power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, new gas regulators, engine remote monitoring capability utilizing Waukesha's Asset Performance Management (APM) system, IPMD2.	AFR2 - Simplified step-by-step air/fuel ratio setup from HMI screen, automatic adjustments to changes in operating conditions, simplified fuel control valve provides fast response for changes in ambient and operating conditions, redesigned harness simplifies fault troubleshooting and maintenance	Existing control system maintenance or failure	(1) G-962-1186
	L7044GSI	2007 - 2010	ESM2 with AFR2 (for use with deep sump oil pan)	ESM2, Harnesses and mounting brackets, Power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, new gas regulators, engine remote monitoring capability utilizing Waukesha's Asset Performance Management (APM) system, IPMD2.	IPMD2 - Extended spark plug life up to 4,000 operating hours		(1) G-962-1188
	L7044GSI	2010-2016	ESM2 with AFR2 (for use with deep sump oil pan)	ESM2, Harnesses and mounting brackets, Power distribution box, AFR2, exhaust & main bearing thermocouples, HMI industrial PC, engine remote monitoring capability utilizing Waukesha's Asset Performance Management (APM) system, IPMD2.			(1) G-962-1189

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
ESM harness upgrade (Click here for more information)							
Stage I	L7044GSI	2003 - 2007	ESM wireways and power distribution box	New wireway harnesses and mounting brackets, new knock sensors, ECU calibration, new ignition coils with integrated harness, power distribution box and mounting brackets.	Redesigned harness simplifies fault troubleshooting and maintenance. New power distribution box simplifies customer wiring connections and includes circuit fault protection, fault indicators, fault reset functions, enhanced noise suppression, and water protection improvements.	Repair or replacement of harnesses or power distribution box	G-962-1209
Stage III	L7044GSI	2007 - 2016	ESM wireways	New wireway harnesses and mounting brackets, new ignition coils with integrated harness.		Repair or replacement of harnesses	(1) G-962-1118
Advanced Breather System (Click here for more information)							
	L7044GSI	1998 - 2015	Advanced Breather System for shallow oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-541
	L7044GSI	2007 - 2015	Advanced Breather System for deep sump oil pan	Closed breather system with advanced filter and automatic regulating valve	No adjustment needed for changes in speed/load. Up to 50% extended service intervals.	Anytime	(1) G-962-540
emPact (for engines shipped with or upgraded to ESM2) (Click here for more information)							
	L7044GSI	Any model with ESM2	emPact	emPact for 0.15g Nox, post catalyst O2 sensors with catalyst health monitoring. Requires advanced breather and ESM2.	emPact - Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.	Emissions regulations, repair	(1) 495823B

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
IPMD2 and spark plug upgrade							
	L7044GSI	Any model with ESM2	IPMD2	New Ignition Power Module with Diagnostics (IPMD2) with optimized voltage profile, one new set of non-precious metal spark plugs	Extended spark plug life up to 4,000 operating hours. Improved combustion to reduce cylinder misfire. Simple "plug and play" installation without any software changes	Spark plug replacement	(1) G-962-1236
Extender Series (Click here for more information)							
	L7044GSI	1998 - 2007	Extender Series for shallow oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration	High efficiency air cleaner with 70% more dirt holding capacity, Microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters.		Contact Waukesha for BOM
	L7044GSI	1998 - 2007	Extender Series with deep sump oil pan	Advanced air cleaner, spin on oil filters, mounted oil cooler, turbine air starter, Microspin oil filtration, deep sump oil pan	High efficiency air cleaner with 70% more dirt holding capacity, microspin oil filtration system to extend oil change intervals, lubrication free air/gas turbine starters, 2x oil capacity to extend oil change intervals		Contact Waukesha for BOM
Gas Regulator							
	L7044GSI	2007 - 2010	AFR2 with Mooney gas regulator replacement	AFR2, new wireway harnesses and mounting brackets, conversion from Mooney gas regulators, single fuel inlet piping, fuel control valves, HMI, O2 sensors, new wastegates differential pressure system	Simplified step-by-step air/fuel ratio setup from HMI screen, automatic adjustments to changes in operating conditions, simplified fuel control valve provides fast response for changes in ambient and operating conditions, redesigned harness simplifies fault troubleshooting and maintenance	Repair or replacement of AFR1 stepper motors or Mooney gas regulator maintenance	(1) G-962-1120
	L7044GSI	2003 - 2007	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets. For use on engines without ESM.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1146

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Air Cleaner (Click here for more information)							
Stage I	L7044GSI	1998 - 2015	Improved air cleaner for standard rain shield applications	Bolted hinge blow-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1153
Stage II	L7044GSI	1998 - 2015	Improved air cleaner for inertia precleaner applications	Bolted hinge blow-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1157
Stage III	L7044GSI	1998 - 2015	Improved air cleaner for remote air inlet applications	Bolted hinge blow-thru air cleaner with inverted 5.5 inch air inlet connection	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. Inverted 5.5 inch air inlet connection allows use of piping for external air inlet	Air cleaner maintenance	(1) G-962-1158
Stage I	L7044GSID	1998 - 2015	Improved air cleaner for standard rain shield applications	Bolted hinge draw-thru air cleaner with standard rain shield and foam pre-filter element	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance. New rain shield design allows use of cleanable foam pre-filter element.	Air cleaner maintenance	(1) G-962-1160
Stage II	L7044GSID	1998 - 2015	Improved air cleaner for inertia precleaner applications	Bolted hinge draw-thru air cleaner with inertia precleaners	Improved hinge design replaces latches with bolted hinge provides enhanced air filter gasket sealing and simplifies air filter maintenance.	Air cleaner maintenance	(1) G-962-1161

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 GL to GSI conversions (Click here for more information)							
Stage III <i>model conversion</i>	P9390GL	1985 - 2015	P9390GSI S4 conversion Series 4 upgrade with power cylinders	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), Miller cycle combustion, turbocharger, wastegate, ESM, AFR2 , advanced breather	Up to 60% lifecycle extension, 55% reduction in oil consumption, ESM control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	(1) G-962-1176
Stage IV <i>model conversion</i>	P9390GL	1985 - 2015	P9394GSI conversion Series 4 upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), Miller cycle combustion, turbocharger, wastegate, ESM, AFR2, advanced breather, crankshaft, connecting rods	Up to 20% lifecycle extension, 55% reduction in oil consumption, Up to 270 more BHP , ESM control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	(1) G-962-1176
GL Extended Life Cylinder Head Rebuild (Click here for more information)							
Stage I	P9390GL	1985-2015	S2GL cylinder head rebuild kit	Rebuild kit with new exhaust valve, rotators, seats and springs.	60% longer time between top end interval	Top end overhaul	(16) G-962-1150
emPact (for engines converted to S4 GSI with ESM and AFR2) (Click here for more information)							
Stage I	Converted P9394GSI with AFR2	1985 - 2015	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring.	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) G-962-1191
Gas Regulator							
	P9390GL	2003 - 2010	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1149
Crankcase Upgrade							
	P9390GL	1985 - 2009	One piece crankcase upgrade	One piece crankcase, additional oil sump parts for conversion	One piece crankcase provides rigidity and simplified mounting and installation to oil pan	Major overhaul	G-962-1155

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
S2 to S4 conversions (Click here for more information)							
Stage III <i>model conversion</i>	P9390GSI	1985 - 2015	P9390GSI S4 conversion Series 4 upgrade with power cylinders	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), Miller cycle combustion, turbocharger, wastegate, ESM, AFR2, advanced breather	Up to 60% lifecycle extension, 66% reduction in oil consumption, Up to 8% reduction in fuel consumption (BSFC), ESM control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	(1) G-962-1176
Stage IV <i>model conversion</i>	P9390GSI	1985 - 2015	P9394GSI conversion Series 4 upgrade with power cylinders, power uprate, with crankshaft and connecting rods	New xCooled cylinder heads, head components, oil header, new piston, rings, liner (PRL), Miller cycle combustion, turbocharger, wastegate, ESM, AFR2, advanced breather, crankshaft, connecting rods	Up to 20% lifecycle extension, 66% reduction in oil consumption, Up to 8% reduction in fuel consumption (BSFC), Up to 270 more BHP , ESM control with knock detection, AFR2 air/fuel ratio control with HMI	Top / Bottom Overhaul	(1) G-962-1176
emPact (for engines converted to S4 GSI with ESM and AFR2) (Click here for more information)							
Stage I	Converted P9394GSI with AFR2	1985 - 2015	emPact	emPact for 0.15g NOx, post catalyst O2 sensors with catalyst health monitoring.	Factory designed and calibrated system reduces maintenance time for system adjustments to maintain compliance. Post catalyst O2 sensor validates adjustments needed to maintain emissions compliance. Catalyst health monitoring system provides differential pressure and temperature to indicate catalyst maintenance intervals.		(1) G-962-1191
Gas Regulator							
	P9390GSI	2003 - 2010	Mooney gas regulator replacement	Mooney gas regulator conversion including new gas regulators, piping, and brackets.	Simplified gas regulator operation and maintenance, removes obsolete Mooney gas regulators	Mooney gas regulator maintenance	(1) G-962-1148
Crankcase Upgrade							
	P9390GSI	1985 - 2009	One piece crankcase upgrade	One piece crankcase, additional oil sump parts for conversion	One piece crankcase provides rigidity and simplified mounting and installation to oil pan	Major overhaul	G-962-1155

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P9390GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Turbocharger Upgrade							
	P9390GSI	1985 - 2016	Turbocharger upgrade	New turbocharger, mounting brackets, water and oil tubing, air and exhaust connections. For use with low speed applications 700 – 1000 RPM	New turbocharger replaces obsolete turbocharger	Turbocharger maintenance	(1) G-962-1162
	P9390GSI	1985 - 2016	Turbocharger upgrade	New turbocharger, mounting brackets, water and oil tubing, air and exhaust connections. For use with high speed applications 1001 – 1200 RPM	New turbocharger replaces obsolete turbocharger	Turbocharger maintenance	Contact Waukesha for BOM

F18GL

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
GL Extended Life Cylinder Head Upgrade (Click here for more information)							
Stage I (pinned intake valve)	F18GL	1987 – 2016	F18GL cylinder head upgrade	New cylinder head components including intake/exhaust valve rotators, valves, valve seats and valve retainers	Up to 50% longer intervals between top end overhauls, reduced valve recession rates, reduced wear provided by optimized material and dimensions	Top end Overhaul	(6) G-962-558 (current version pinned intake valve, see Service Bulletin 7-2953)
Stage I (non-pinned intake valve)	F18GL	1987 – 2016	F18GL cylinder head upgrade	New cylinder head components including intake/exhaust valve rotators, valves, valve seats and valve retainers	Up to 50% longer intervals between top end overhauls, reduced valve recession rates, reduced wear provided by optimized material and dimensions	Top end Overhaul	(6) G-962-559 (non-pinned intake valve, see Service Bulletin 7-2953)
GL to GSI Conversion (Click here for more information)							
Stage I <i>model conversion</i>	F18GL	1987-Current	F18 GL to GSI conversion	Cylinder head assembly, turbocharger, wastegate, cylinder sleeves, damper, jacket water pump repair kit, camshaft bearings and main bearings	Reduces NOx emissions and increases fuel range tolerances	Top / Bottom Overhaul	(1) G-962-542 (6) REM-DF300302C
High Capacity Oil Pan Extension							
Stage I	F18GL	1987 – Apr 2003	High Cap Oil Pan Extender Kit	New oil pan doubles oil capacity	Extends oil change intervals by doubling the capacity of the oil pan	Top / Bottom Overhaul	(1) G-962-1083

F18GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
High Capacity Oil Pan Extension							
Stage I	F18GSI	1987 – Apr 2003	High Cap Oil Pan Extender Kit	New oil pan doubles oil capacity	Extends oil change intervals by doubling the capacity of the oil pan	Top / Bottom Overhaul	(1) G-962-1083

H24GL

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
GL Extended Life Cylinder Head Upgrade (Click here for more information)							
Stage I (pinned intake valve)	H24GL	1987 – 2016	H24GL cylinder head upgrade	New cylinder head components including intake/exhaust valve rotators, valves, valve seats and valve retainers	Up to 50% longer intervals between top end overhauls, reduced valve recession rates, reduced wear provided by optimized material and dimensions	Top end Overhaul	(8) G-962-558 (current version pinned intake valve, see Service Bulletin 7-2953)
Stage I (non-pinned intake valve)	H24GL	1987 – 2016	H24GL cylinder head upgrade	New cylinder head components including intake/exhaust valve rotators, valves, valve seats and valve retainers	Up to 50% longer intervals between top end overhauls, reduced valve recession rates, reduced wear provided by optimized material and dimensions	Top end Overhaul	(8) G-962-559 (non-pinned intake valve, see Service Bulletin 7-2953)
GL to GSI Conversion (Click here for more information)							
Stage I <i>model conversion</i>	H24GL	1987-Current	H24 GL to GSI conversion	Cylinder head assembly, turbocharger, wastegate, cylinder sleeves, damper, jacket water pump repair kit, camshaft bearings and main bearings	Reduces NOx emissions and increases fuel range tolerances	Top / Bottom Overhaul	(1) G-962-553 (8) REM-DF300302C
High Capacity Oil Pan Extension							
Stage I	H24GL	1987 – Apr 2003	High Cap Oil Pan Extender Kit	New oil pan doubles oil capacity	Extends oil change intervals by doubling the capacity of the oil pan	Top / Bottom Overhaul	(1) G-962-1082

H24GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
High Capacity Oil Pan Extension							
Stage I	H24GSI	1987 – Apr 2003	High Cap Oil Pan Extender Kit	New oil pan doubles oil capacity	Extends oil change intervals by doubling the capacity of the oil pan	Top / Bottom Overhaul	(1) G-962-1082

L36GL

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
GL Extended Life Cylinder Head Upgrade (Click here for more information)							
Stage I (pinned intake valve)	L36GL	1987 – 2016	L36GL cylinder head upgrade	New cylinder head components including intake/exhaust valve rotators, valves, valve seats and valve retainers	Up to 50% longer intervals between top end overhauls, reduced valve recession rates, reduced wear provided by optimized material and dimensions	Top end Overhaul	(12) G-962-558 (current version pinned intake valve, see Service Bulletin 7-2953)
Stage I (non-pinned intake valve)	L36GL	1987 – 2016	L36GL cylinder head upgrade	New cylinder head components including intake/exhaust valve rotators, valves, valve seats and valve retainers	Up to 50% longer intervals between top end overhauls, reduced valve recession rates, reduced wear provided by optimized material and dimensions	Top end Overhaul	(12) G-962-559 (non-pinned intake valve, see Service Bulletin 7-2953)
Spin-on Oil Filter Upgrade							
Stage I	L36GL	1987 - 2016	Spin-on Filters	Includes new housing assembly, spin-on filters, gaskets and mounting hardware	Simple spin-on oil filter change eliminates messy disassembly of internal oil filters and reduces oil change time.	Oil Change Interval	(1) G-962-487
High Capacity Oil Pan Extension							
Stage I	L36GL	1987 – Apr 2003	High Cap Oil Pan Extender Kit	Converts the standard oil pan to a high capacity pan by raising the dipstick location and oil level controller	Extends oil change intervals by doubling the capacity of the oil pan	Top / Bottom Overhaul	(1) G-962-1087 [Requires pre-lube pump]

L36GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Spin-on Oil Filter Upgrade							
Stage I	L36GSI	1987 - 2016	Spin-on Filters	Includes new housing assembly, spin-on filters, gaskets and mounting hardware	Simple spin-on oil filter change eliminates messy disassembly of internal oil filters and reduces oil change time.	Oil Change Interval	(1) G-962-487
High Capacity Oil Pan Extension							
Stage I	L36GSI	1987 – Apr 2003	High Cap Oil Pan Extender Kit	Converts the standard oil pan to a high capacity pan by raising the dipstick location and oil level controller	Extends oil change intervals by doubling the capacity of the oil pan	Top / Bottom Overhaul	(1) G-962-1087 [Requires pre-lube pump]

P48GL

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
GL Extended Life Cylinder Head Upgrade (Click here for more information)							
Stage I (pinned intake valve)	P48GL	1987 – 2016	P48GL cylinder head upgrade	New cylinder head components including intake/exhaust valve rotators, valves, valve seats and valve retainers	Up to 50% longer intervals between top end overhauls, reduced valve recession rates, reduced wear provided by optimized material and dimensions	Top end Overhaul	(16) G-962-558 (current version pinned intake valve, see Service Bulletin 7-2953)
Stage I (non-pinned intake valve)	P48GL	1987 – 2016	P48GL cylinder head upgrade	New cylinder head components including intake/exhaust valve rotators, valves, valve seats and valve retainers	Up to 50% longer intervals between top end overhauls, reduced valve recession rates, reduced wear provided by optimized material and dimensions	Top end Overhaul	(16) G-962-559 (non-pinned intake valve, see Service Bulletin 7-2953)
Spin-on Oil Filter Upgrade							
Stage I	P48GL	1987 - 2016	Spin-on Filters	Includes new housing assembly, spin-on filters, gaskets and mounting hardware	Simple spin-on oil filter change eliminates messy disassembly of internal oil filters and reduces oil change time.	Oil Change Interval	(1) G-962-487
High Capacity Oil Pan Extension							
Stage I	P48GL	1987 – Apr 2003	High Cap Oil Pan Extender Kit	Converts the standard oil pan to a high capacity pan by raising the dipstick location and oil level controller	Extends oil change intervals by doubling the capacity of the oil pan	Top / Bottom Overhaul	(1) G-962-1087 [Requires pre-lube pump]

P48GSI

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
Spin-on Oil Filter Upgrade							
Stage I	P48GSI	1987 - 2016	Spin-on Filters	Includes new housing assembly, spin-on filters, gaskets and mounting hardware	Simple spin-on oil filter change eliminates messy disassembly of internal oil filters and reduces oil change time.	Oil Change Interval	(1) G-962-487
High Capacity Oil Pan Extension							
Stage I	P48GSI	1987 – Apr 2003	High Cap Oil Pan Extender Kit	Converts the standard oil pan to a high capacity pan by raising the dipstick location and oil level controller	Extends oil change intervals by doubling the capacity of the oil pan	Top / Bottom Overhaul	(1) G-962-1087 [Requires pre-lube pump]

12V-AT27GL

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
AT to 275GL+ Conversion							
Stage I <i>model conversion</i>	12V-AT27GL	1994 – 2012	275GL+ Conversion with +495 HP Power Uprate	Upgrade to ESM control system and wiring trays, spin on oil filters with centrifugal filtration and pre-lube pump, turbocharger, enhanced cooling system and bypass piping for jacket water and aux water	Enhanced engine control and reliability, up to 495 more BHP decrease to .5g/bhp-hr NOx, ease of access for lube oil maintenance, quick connect coils/thermocouples and ease of access to wiring harnesses	Bottom Overhaul	(1) G-962-1167
Stage II <i>model conversion + power uprate</i>	12V-AT27GL	1994 – 2012 (crankshaft dependent)	275GL+ Conversion with +620 HP Power Uprate	Upgrade to ESM control system and wiring trays, spin on oil filters with centrifugal filtration and pre-lube pump, turbocharger, enhanced cooling system and bypass piping for jacket water and aux water	Enhanced engine control and reliability, up to 620 more BHP , decrease to .5g/bhp-hr NOx, ease of access for lube oil maintenance, quick connect coils/thermocouples and ease of access to wiring harnesses	Bottom Overhaul	(1) G-962-1167 + Contact Waukesha for uprate

16V-AT27GL

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Category	Model	Model ship dates	Product	Description	Customer Benefit	Timing	Kit Bill of Materials
AT to 275GL+ Conversion							
Stage I <i>model conversion</i>	16V-AT27GL	1999 – 2009	275GL+ Conversion with +335 HP Power Uprate	Upgrade to ESM control system and wiring trays, spin on oil filters with centrifugal filtration and pre-lube pump, turbocharger, enhanced cooling system and bypass piping for jacket water and aux water	Enhanced engine control and reliability, up to 335 more BHP decrease to .5g/bhp-hr NOx, ease of access for lube oil maintenance, quick connect coils/thermocouples and ease of access to wiring harnesses	Bottom Overhaul	(1) G-962-1166
Stage II <i>model conversion + power uprate</i>	16V-AT27GL	1999 – 2009 (crankshaft dependent)	275GL+ Conversion with +500 HP Power Uprate	Upgrade to ESM control system and wiring trays, spin on oil filters with centrifugal filtration and pre-lube pump, turbocharger, enhanced cooling system and bypass piping for jacket water and aux water	Enhanced engine control and reliability, up to 500 more BHP , decrease to .5g/bhp-hr NOx, ease of access for lube oil maintenance, quick connect coils/thermocouples and ease of access to wiring harnesses	Bottom Overhaul	(1) G-962-1166+ Contact Waukesha for uprate