

New and Remanufactured Replacement Parts for DETROIT DIESEL®

50/60 SERIES ENGINES



INTERSTATE-McBEE, LLC

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60 SERIES

ENGINE KIT MATRIX

	11.1L & 12.7L OEM Style Kits								
Cylinder Kit		Basis O/H		Bearing Kit		Bearing Kit			
A-23532555	use	A-23532565	+	A-23531604	or	A-23531605			
A-23532556	use	A-23532581	+	A-23531604	or	A-23531605			
A-23532557	use	A-23532585	+	A-23531604	or	A-23531605			
A-23532558	use	A-23533033	+	A-23531605					
A-23532561	use	A-23532574	+	A-23531606					
A-23532562	use	A-23532577	+	A-23531606					
A-23532590	use	A-23532592	+	A-23531604					
A-23532591	use	A-23532593	+	A-23531604					

Serial #		Bearing Kit
11.1L ≤6R184522	use	A-23531604
12.7L ≤6R188251	use	A-23531604
11.1L ≥6R184523	use	A-23531605
12.7L ≥6R188252	use	A-23531605

14L OEM Style Kits									
Cylinder Kit		Basis O/H		Bearing Kit		Bearing Kit		Bearing Kit	
A-23530663	use	A-23532307	+	A-23527914	or	A-23535280			
A-23530665	use	A-23537081	+	A-23527914	or	A-23535280	or	A-23533692	

S60 IN-FRAME KITS

A-MCIFS60	Without cast iron crown & skirt / with wide bearings
A-MCIFS60-4	Without articulated steel crown & aluminum skirt
A-MCIFS60-4S	Without articulated steel crown / with aluminum skirt
MCIFS60-5	DDEC V No pistons / Must have 23533282 piston
A-MCIF23532555N (Narrow Bearings)	TLC Cast iron 15:1 pistons with 2.5mm fire ring with narrow bearings 11.1L ESN 151000 approx. to 184522 12.7L ESN 151000 approx. to 188251
A-MCIF23532555	TLC Cast iron 15:1 pistons with 2.5mm fire ring with wide bearings 11.1L ESN 184523 to MY2000 12.7L ESN 188252 to MY2000
A-MCIF23532555NQ (Narrow Bearings)	TLC Cast iron 15:1 pistons with 2.5mm fire ring with narrow bearings 11.1L ESN 151000 approx. to 184522 12.7L ESN 151000 approx. to 188251 Includes cam bearings, head bolts and injector installation kits
A-MCIF23532555Q	TLC Cast iron 15:1 pistons with 2.5mm fire ring with wide bearings 11.1L ESN 184523 to MY2000 12.7L ESN 188252 to MY2000 Includes cam bearings, head bolts and injector installation kits
A-MCIF23532556N (Narrow Bearings)	TLC Cast iron 15:1 pistons with 3.5mm fire ring with narrow bearings 11.1L ESN 151000 approx. to 184522 12.7L ESN 151000 approx. to 188251
A-MCIF23532556	TLC Cast iron 15:1 pistons with 3.5mm fire ring with wide bearings 11.1L ESN 184523 to MY2000 12.7L ESN 188252 to MY2000
A-MCIF23532556NQ (Narrow Bearings)	TLC Cast iron 15:1 pistons with 3.5mm fire ring with narrow bearings 11.1L ESN 151000 approx. to 184522 12.7L ESN 151000 approx. to 188251 Includes cam bearings, head bolts and injector installation kits
A-MCIF23532556Q	TLC Cast iron 15:1 pistons with 3.5mm fire ring with wide bearings 11.1L ESN 151000 approx. to 184522 12.7L ESN 151000 approx. to 188251 Includes cam bearings, head bolts and injector installation kits
A-MCIF23532557	TLC Cast iron 15:1 eliptical dome pistons with 2.5mm fire ring with wide bearings
A-MCIF23532557Q	TLC Cast iron 15:1 eliptical dome pistons with 2.5mm fire ring with wide bearings Includes cam bearings, head bolts and injector installation kits
A-MCIF23532561	Articulated steel 15:1 pistons 2.5mm fire ring & heavy pin MY1998
A-MCIF23532561Q	Articulated steel 15:1 pistons 2.5mm fire ring & heavy pin MY1998 Includes cam bearings, head bolts and injector installation kits.
A-MCIF23532562	Articulated steel 16.5:1 pistons 2.5mm fire ring & heavy pin MY1999 -2003
A-MCIF23532562Q	Articulated steel 16.5:1 pistons 2.5mm fire ring & heavy pin MY1999 -2003 Includes cam bearings, head bolts and injector installation kits.



S60 OVERHAUL KITS

A-MCOHS60	Without cast iron crown & skirt / with wide bearings
A-MOOFIGOD	TLC Cast iron 15:1 pistons with 2.5mm fire ring with
A-MCOH23532555N (Narrow Bearings)	narrow bearings 11.1L ESN 151000 approx. to 184522 12.7L ESN 151000 approx. to 188251
A-MCOH23532555	TLC Cast iron 15:1 pistons with 2.5mm fire ring with wide bearings 11.1L ESN 184523 to MY2000 12.7L ESN 188252 to MY2000
A-MCOH23532555NQ (Narrow Bearings)	TLC Cast iron 15:1 pistons with 2.5mm fire ring with narrow bearings 11.1L ESN 151000 approx. to 184522 12.7L ESN 151000 approx. to 188251 Includes cam bearings, head bolts and injector installation kits
A-MCOH23532555Q	TLC Cast iron 15:1 pistons with 2.5mm fire ring with wide bearings 11.1L ESN 184523 to MY2000 12.7L ESN 188252 to MY2000 Includes cam bearings, head bolts and injector installation kits
A-MCOH23532556N (Narrow Bearings)	TLC Cast iron 15:1 pistons with 3.5mm fire ring with narrow bearings 11.1L ESN 151000 approx. to 184522 12.7L ESN 151000 approx. to 188251
A-MCOH23532556	TLC Cast iron 15:1 pistons with 3.5mm fire ring with wide bearings 11.1L ESN 184523 to MY2000 12.7L ESN 188252 to MY2000
A-MCOH23532556NQ (Narrow Bearings)	TLC Cast iron 15:1 pistons with 3.5mm fire ring with narrow bearings 11.1L ESN 151000 approx. to 184522 12.7L ESN 151000 approx. to 188251 Includes cam bearings, head bolts and injector installation kits
A-MCOH23532556Q	TLC Cast iron 15:1 pistons with 3.5mm fire ring with wide bearings 11.1L ESN 151000 approx. to 184522 12.7L ESN 151000 approx. to 188251 Includes cam bearings, head bolts and injector installation kits
A-MCOH23532557	TLC Cast iron 15:1 eliptical dome pistons with 2.5mm fire ring with wide bearings
A-MCOH23532557Q	TLC Cast iron 15:1 eliptical dome pistons with 2.5mm fire ring with wide bearings Includes cam bearings, head bolts and injector installation kits
A-MCOH23532561	Articulated steel 15:1 pistons 2.5mm fire ring & heavy pin MY1998
A-MCOH23532561Q	Articulated steel 15:1 pistons 2.5mm fire ring & heavy pin MY1998 Includes cam bearings, head bolts and injector installation kits.
A-MCOH23532562	Articulated steel 16.5:1 pistons 2.5mm fire ring & heavy pin MY1999 -2003
A-MCOH23532562Q	Articulated steel 16.5:1 pistons 2.5mm fire ring & heavy pin MY1999 -2003 Includes cam bearings, head bolts and injector installation kits.

S50 IN-FRAME KITS

A-MCIFS50	Without cast iron crown & skirt / with wide bearings
A-MCIFS50-4	Without articulated steel crown & aluminum skirt
A-MCIFS50-4S	Without articulated steel crown / with aluminum skirt
A-MCIF23532555N-50 (Narrow Bearings)	TLC Cast iron 15:1 pistons with 2.5mm fire ring with narrow bearings ESN ≤ 6664
A-MCIF23532555-50	TLC Cast iron 15:1 pistons with 2.5mm fire ring with wide bearings ESN ≥ 6665
A-MCIF23532555NQ-50 (Narrow Bearings)	TLC Cast iron 15:1 pistons with 2.5mm fire ring with narrow bearings ESN ≤ 4664 Includes cam bearings, head bolts and injector installation kits
A-MCIF23532555Q-50	TLC Cast iron 15:1 pistons with 2.5mm fire ring with wide bearings ESN ≥ 4665 Includes cam bearings, head bolts and injector installation kits
A-MCIF23532556N-50 (Narrow Bearings)	TLC Cast iron 15:1 pistons with 3.5mm fire ring with narrow bearings ESN ≤ 6664
A-MCIF23532556-50	TLC Cast iron 15:1 pistons with 3.5mm fire ring with wide bearings ESN ≥ 6665
A-MCIF23532556NQ-50 (Narrow Bearings)	TLC Cast iron 15:1 pistons with 3.5mm fire ring with narrow bearings ESN ≤ 4664 Includes cam bearings, head bolts and injector installation kits
A-MCIF23532556Q-50	TLC Cast iron 15:1 pistons with 3.5mm fire ring with wide bearings ESN ≥ 4665 Includes cam bearings, head bolts and injector installation kits
A-MCIF23532557-50	TLC Cast iron 15:1 eliptical dome pistons with 2.5mm fire ring with wide bearings ESN ≥ 4665
A-MCIF23532557Q-50	TLC Cast iron 15:1 eliptical dome pistons with 2.5mm fire ring with wide bearings ESN ≥ 4665 Includes cam bearings, head bolts and injector installation kits
A-MCIF23532561-50	Articulated steel 15:1 pistons 2.5mm fire ring & heavy pin
A-MCIF23532561Q-50	Articulated steel 15:1 pistons 2.5mm fire ring & heavy pin Includes cam bearings, head bolts and injector installation kits.
A-MCIF23532562-50	Articulated steel 16.5:1 pistons 2.5mm fire ring & heavy pin
A-MCIF23532562Q-50	Articulated steel 16.5:1 pistons 2.5mm fire ring & heavy pin Includes cam bearings, head bolts and injector installation kits.



\$50 OVERHAUL KITS

A-MCOHS50	Without cast iron crown & skirt / with wide bearings
A-MCOHS50-4	Without articulated steel crown & aluminum skirt
A-MCOHS50-4S	Without articulated steel crown / with aluminum skirt
A-MCOH23532555N-50 (Narrow Bearings)	TLC Cast iron 15:1 pistons with 2.5mm fire ring with narrow bearings ESN ≤ 6664
A-MCOH23532555-50	TLC Cast iron 15:1 pistons with 2.5mm fire ring with wide bearings ESN ≥ 6665
A-MCOH23532555NQ-50 (Narrow Bearings)	TLC Cast iron 15:1 pistons with 2.5mm fire ring with narrow bearings ESN ≤ 4664 Includes cam bearings, head bolts and injector installation kits
A-MCOH23532555Q-50	TLC Cast iron 15:1 pistons with 2.5mm fire ring with wide bearings ESN ≥ 4665 Includes cam bearings, head bolts and injector installation kits
A-MCOH23532556N-50 (Narrow Bearings)	TLC Cast iron 15:1 pistons with 3.5mm fire ring with narrow bearings ESN ≤ 6664
A-MCOH23532556-50	TLC Cast iron 15:1 pistons with 3.5mm fire ring with wide bearings ESN ≥ 6665
A-MCOH23532556NQ-50 (Narrow Bearings)	TLC Cast iron 15:1 pistons with 3.5mm fire ring with narrow bearings ESN ≤ 4664 Includes cam bearings, head bolts and injector installation kits
A-MCOH23532556Q-50	TLC Cast iron 15:1 pistons with 3.5mm fire ring with wide bearings ESN ≥ 4665 Includes cam bearings, head bolts and injector installation kits
A-MCOH23532557-50	TLC Cast iron 15:1 eliptical dome pistons with 2.5mm fire ring with wide bearings ESN ≥ 4665
A-MCOH23532557Q-50	TLC Cast iron 15:1 eliptical dome pistons with 2.5mm fire ring with wide bearings ESN ≥ 4665 Includes cam bearings, head bolts and injector installation kits
A-MCOH23532561-50	Articulated steel 15:1 pistons 2.5mm fire ring & heavy pin
A-MCOH23532561Q-50	Articulated steel 15:1 pistons 2.5mm fire ring & heavy pin Includes cam bearings, head bolts and injector installation kits.
A-MCOH23532562-50	Articulated steel 16.5:1 pistons 2.5mm fire ring & heavy pin
A-MCOH23532562Q-50	Articulated steel 16.5:1 pistons 2.5mm fire ring & heavy pin Includes cam bearings, head bolts and injector installation kits.

CYLINDER COMPONENTS

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23532555	4	6	6		Cylinder Kit - Cast Iron Piston	15:1 2.5mm
A-23532556	4	6	6		Cylinder Kit - Cast Iron Piston	15:1 3.5mm
A-23532557	4		6		Cylinder Kit - Cast Iron Piston	15:1 2.5mm eliptical dome
A-23532558	4		6		Cylinder Kit - Cast Iron Piston	16:5:1 2.5mm 22mm ID pin
A-23532561	4		6		Cylinder Kit - Art. Steel Piston	15:1 2.5mm 22mm ID pin
A-23532562	4		6		Cylinder Kit - Art. Steel Piston	16.5:1 2.5mm 22mm ID pin
A-23530661				6	Cylinder Kit - Art. Steel Piston	15:1
A-23530663				6	Cylinder Kit - Art. Steel Piston	16:1
A-23530665				6	Cylinder Kit - Art. Steel Piston	16:1 EGR
A-23532468		6	6		Liner Kit - Early w/Seals	(A-23505278)
A-23531249	4	6	6		Liner Kit - TLC w/Seals	(A-23523938/A-23514285)
A-23531250				6	Liner Kit - TLC w/Seals	,
A-8929013	4	6	6	6	Liner Seal - Crevice	1
A-8929176	8	12	12	12	Liner Seal - Crevice	
71 0020110	1 0	14	14	14	Liner Seal - D-IIIIg	I
A-23519635	4	6	6		Piston Kit Cl 3.5mm 15:1	Dome assembly, skirt & pin
A-23519624	4	6	6		Piston Kit CI 2.5mm 15:1	Dome assembly, skirt & pin
A-23519646	4		6		Piston Kit CI Eliptical 2.5mm 15:1	Dome assembly, skirt & pin
A-23524601	4		6		Piston Kit CI 2.5mm 16.5:1	Dome, skirt, pin & retainers
A-23533203	4		6		Piston Kit Art. Steel 2.5mm 15:1	Dome, skirt, pin & retainers
A-23532552	4		6		Piston Kit Art. Steel 2.5mm 16.5:1	Dome, skirt, pin & retainers
A-23530660				6	Piston Kit Art. Steel 15:1	Dome, skirt, pin & retainers
A-23530662				6	Piston Kit Art. Steel 16:1	Dome, skirt, pin & retainers
A-23530664				6	Piston Kit Art. Steel 16:1 EGR	Dome, skirt, pin & retainers
A-23503747	4	6	6		Ring Set 2.5mm	
A-23505747 A-23505729	4	6	6		Ring Set 2.5mm	
A-23531252	+ +	0	0	6	Ring Set 3.5mm	
A-23031232				0	ning Set	
A-23519723	4	6	6		Slipper Bearing Kit - OE Crown	X-head iron crown
MCB23519723	4	6	6		Slipper Bearing Kit - McBee Crown	X-head iron crown
A-8929087	4	6	6		Piston Pin X-head Iron	
A-8929337	8	12	12		Pin Bolts	
A-8929504	8	12	12		Pin Bolt Spacer	
A-23525168	4	<u> </u>	6		Piston Pin Articulated Steel	22mm ID use in sets only
A-23522872	<u> </u>			6	Piston Pin Articulated Steel	
A-23521781	8		12	12	Pin Retainer	Steel articulated crown
MCB60BSH	4		6	6	Rod Bushing Closed Rod (trunk)	Use in drilled rods only
A-8929355	8	12	12		Rod cap bolt	M14x1.5x108
A-8929019	8	12	12	12	Rod cap nut	M14x1.5
A-23522877			12	12	Rod cap bolt	M14x1.5x111.5
A-23528493	4	T .	6	6	Piston Cooling Nozzle	
A-23506222	4	 	6	6	Piston Cooling Nozzle Bolt	

GASKET SETS

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23532330	1				Head Gasket Set	Must use w/ NEW style bolts
MCB50HBK	1				Head Bolt Kit	New style bolts & washers
A-23532333		1	1	1	Head Gasket Set	Must use w/ NEW style bolts
A-23536442			1	1	Head Gasket Set - EGR	Must use w/ NEW style bolts
MCB60HBK		1	1	1	Head Bolt Kit	New style bolts & washers
		,	•	,		·
A-23532329	1				Overhaul Gasket Set	
A-23532720		1	1	1	Overhaul Gasket Set	
A-23536443			1	1	Overhaul Gasket Set - EGR	
MCBS0060	1	1	1	1	Kit, Oil Cooler Installation	MY 1991 & up

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ENGINE BEARINGS

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-8929710	4	6	6		Rod Brg - Early STD X-head	
A-8929711	4	6	6		Rod Brg - Early .254mm X-head	≤4R6664 <0R104501.11.11
A-8929712	4	6	6		Rod Brg - Early .508mm X-head	
A-8929713	4	6	6		Rod Brg - Early .762mm X-head	S011100230 12.7E 1.710 W 4511111
A-23515581	4	6	6		Rod Brg - Wide STD X-head	
A-23515582	4	6	6		Rod Brg - Early .254mm X-head	≥4R6665
A-23515583	4	6	6		Rod Brg - Early .508mm X-head	– ≥6R184522 11.1L
A-23515584	4	6	6		Rod Brg - Early .762mm X-head	≥6R188251 12.7L 1.863"W 47mm
A-23526142	4		6		Rod Brg - STD	Closed rod / steel piston
A-23527065	4		6		Rod Brg254mm	Closed rod / steel piston
A-23527066	4		6		Rod Brg508mm	Closed rod / steel piston
A-23527067	4		6		Rod Brg762mm	Closed rod / steel piston
A-23526141			6	6	Rod Brg - STD	Closed rod / large journal
A-23533567			6	6	Rod Brg254mm	Closed rod / large journal
A-23533568			6	6	Rod Brg508mm	Closed rod / large journal
					-	
A-8929670	4	6	6	6	Main Brg STD	
A-8929680	1	1	1	1	Main Brg STD	
A-8929671	4	6	6	6	Main Brg .254mm	
A-8929681	1	1	1	1	Main Brg .254mm	
A-8929672	4	6	6	6	Main Brg .508mm	
A-8929682	1	1	1	1	Main Brg .508mm	
A-8929673	4	6	6	6	Main Brg .762mm	
A-8929683	1	1	1	1	Main Brg .762mm	
A-8929085	2	2	2	2	Thrust Washer	
A-23530554			2	2	Thrust Washer - Front	6R0762048 & up
A-23530555			2	2	Thrust Washer - Rear	6R0762048 & up
	T -			T =		
A-8929690	5	7	7	7	Cam Bearing - STD	
A-8929691	5	7	7	7	Cam Bearing254mm	
A-8929692	5	7	7	7	Cam Bearing508mm	
A-8929693	5	7	7	7	Cam Bearing762mm	
MCB7133	4		6	6	Rod Bushing	For drilled rods only
A-8929430		1	1	1	Bull Gear Bearing Assembly	

ENGINE BEARING KITS

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23531604		1	1		Lower Bearing Kit - STD	Early narrow mains 43mm
A-23531605		1	1		Lower Bearing Kit - STD	Wide mains 47mm
A-23519905		1	1		Lower Bearing Kit254mm	Wide mains 47mm
A-23519906		1	1		Lower Bearing Kit508mm	Wide mains 47mm
A-23531606			1		Lower Bearing Kit - STD	Articulated steel piston
A-23527914				1	Lower Bearing Kit - STD	Non EGR engine
A-23535280			1	1	Lower Bearing Kit - STD	Hooked & tabbed thrust washers
A-23533692			1	1	Lower Bearing Kit - STD	Tabbed thrust washers

CYLINDER BLOCK

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23525500	AR	AR	AR		Sleeve, Counter Bore Repair	Upper
A-23539134	AR	AR	AR	AR	.010" Liner Shim	Stainless
A-23539135	AR	AR	AR	AR	.030" Liner Shim	Stainless
A-S60.031 SHIM	AR	AR	AR	AR	.031" Liner Shim	Brass
A-23539136	AR	AR	AR	AR	.060" Liner Shim	Stainless
A-S60.062 SHIM	AR	AR	AR	AR	.062" Liner Shim	Brass

CYLINDER HEAD COMPONENTS

A-23501576	PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23507504	A-23501576	8	12	12	12		"A" or large dimple
Note: Valve lash settings for these are not the same and cannot be mixed in an engine.	A-23501577		12	12		Valve Kit - Exhaust - Pre 1991 %	"U" & No machined ID ring
SANOEL Valve lash settings for these are not the same and cannot be mixed in an engine. A8892596	A-23507504	8	12	12	12		ID ring & "H" or small dimple
A-8929589	Note: Valve kits in	nclude val	ve, locks,	seal & ro	tator.		
A-23529629 8	%Note: Valve last	n settings	for these	are not th	ne same a	and cannot be mixed in an engine.	
A-23520149	A-8929589	8	12	12	12	Valve - Intake	"A" or large dimple
A-23520149	A-23529629	8		12	12	Valve - Intake - EGR	
A-235093596 8 12 12 12 Valve - Exhaust - 1981-2001 % ID ring & "H" or small dimple A-23529596 8 12 12 Valve - Exhaust - 1981-2001 w ID ring & "H" or small dimple A-235290148 8 12 Valve - Exhaust - GAS IA Valve Guide-Piffed 14,30 - 14,32mm OD A-235335572 AR	A-23520149	8		12			
A-235093596 8 12 12 12 Valve - Exhaust - 1981-2001 % ID ring & "H" or small dimple A-23529596 8 12 12 Valve - Exhaust - 1981-2001 w ID ring & "H" or small dimple A-235290148 8 12 Valve - Exhaust - GAS IA Valve Guide-Piffed 14,30 - 14,32mm OD A-235335572 AR	A-8929590		12	12		Valve - Exhaust - Pre 1991 %	"U" & No machined ID ring
A-23520148 8	A-23506350	8	12	12	12	Valve - Exhaust - 1991-2001 %	ID ring & "H" or small dimple
A-23518571 16	A-23529596	8		12	12	Valve - Exhaust - EGR 2002 up	
A-23533525	A-23520148	8		12		Valve - Exhaust - GAS	
A-235218572	A-23518571	16	24	24	24	Valve Guide-Rifled	14.30 -14.32mm OD
A-23529394 16 24 24 Valve Stem Seals A-8929127 8 12 12 12 Valve Stem London ABABAR ABABAR ARA	A-23533552	16	24	24	24	Valve Guide-Smooth	14.30 -14.32mm OD
A-23521944	A-23518572	AR	AR	AR	AR	Valve Guide	14.43 -14.45mm OD
A-8929127.010	A-23523930	16	24	24	24		
A-8929127.010	A-23521944	16		24		Valve Stem Seals - GAS	
A-29517058	A-8929127	8	12	12	12		
A-8929126.010	A-8929127.010	AR	AR	AR	AR	Valve Seat - Intake010" OS	
A-8929126.010	A-23517058	8		12		Valve Seat - Intake - GAS	
A-28519090 8	A-8929126	8	12	12	12	Valve Seat - Exhaust - STD	
A-23519090 8	A-8929126.010	AR	AR	AR	AR	Valve Seat - Exhaust010" OS	
A-8929415	A-23519090	8		12			
A-8929415	A-8929415	16	24	24	24	Valve Spring	Both non-EGR
A-23535122 8 12 12 Valve Spring - Exhaust EGR A-8929076 16 24 24 24 Spring Seat STD A-8929105 16 24 24 24 Rotator A-8929573 32 48 48 Locks A-5138643 30 30 30 Button Valve Adjustment ≤MY 2000 A-8929059 AR AR AR AR Valve Rocker Arm Bushing - Narrow 3 A-8929536 AR AR AR AR Valve Rocker Arm Bushing - Wide 1 A-235352937PR 4 6 6 6 Pin and Roller Kit Intake Rocker Arm A-23513939PR 4 6 6 6 N2 Injector Tube Kit A-23515470 4 6 6 6 N2 Injector Tube Auxiliary Seal Large A-23511870 4 6 6 6 N2 Injector Tube Auxiliary Seal Small A-23533148 4 6 6 6 N3 Injector Tube Sim With seal (A		8		12	12	Valve Spring - Intake EGR	
A-8929076	A-23535122	8		12	12	Valve Spring - Exhaust EGR	
A-8929105	A-8929076	16	24	24	24		STD
A-5138643 30 30 30 Button Valve Adjustment ≤MY 2000 A-8929059 AR AR AR AR Valve Rocker Arm Bushing - Narrow 3 A-8929536 AR AR AR AR Valve Rocker Arm Bushing - Wide 1 A-23536247PR 4 6 6 Pin and Roller Kit Exhaust Rocker Arm 4 A-23531939PR 4 6 6 Pin and Roller Kit Intake Rocker Arm A-23501580 4 6 6 Pin and Roller Kit Injector Rocker Arm A-23515470 4 6 6 N2 Injector Tube Seal A-23511870 4 6 6 N2 Injector Tube Auxiliary Seal Large A-23513418 4 6 6 N2 Injector Tube Auxiliary Seal Small A-23533147 4 6 6 N3 Injector Tube Seal A-23534745 6 6 83 Injector Tube Seal A-23536862 AR AR AR AR Base Injector Tube Shim007" A-23538663 AR AR AR </td <td></td> <td>16</td> <td>24</td> <td>24</td> <td>24</td> <td></td> <td></td>		16	24	24	24		
A-8929059 AR AR AR AR Valve Rocker Arm Bushing - Narrow 3 A-8929536 AR AR AR AR AR AR AR Valve Rocker Arm Bushing - Wide 1 A-23538247PR 4 6 6 6 Pin and Roller Kit Intake Rocker Arm 4 6 6 6 Pin and Roller Kit Intake Rocker Arm 4 6 6 6 Pin and Roller Kit Intake Rocker Arm 4 6 6 6 Pin and Roller Kit Intake Rocker Arm 4 6 6 6 Pin and Roller Kit Intake Rocker Arm 4 6 6 6 Pin and Roller Kit Intake Rocker Arm 4 6 6 6 N2 Injector Tube Kit With seal (A-23515470) 4 6 6 6 N2 Injector Tube Seal 4 6 6 6 N2 Injector Tube Auxiliary Seal Large A-235311870 4 6 6 N3 Injector Tube Kit - Threaded SST With seal (A-23533147) A-23533147 4 6 6 N3 Injector Tube Kit - Threaded SST With seal (A-23534743) A-2353	A-8929573	32	48	48	48	Locks	
A-8929536	A-5138643		30	30	30	Button Valve Adjustment	≤MY 2000
A-8929536	A-8929059	AR	AR	AR	AR	Valve Rocker Arm Bushing - Narrow	3
A-23538247PR 4 6 6 Pin and Roller Kit Exhaust Rocker Arm A-23532937PR 4 6 6 Pin and Roller Kit Intake Rocker Arm A-23513939PR 4 6 6 Pin and Roller Kit Intake Rocker Arm A-2351580 4 6 6 N2 Injector Tube Kit With seal (A-23515470) A-23515470 4 6 6 N2 Injector Tube Seal A-5104701 4 6 6 N2 Injector Tube Auxiliary Seal Large A-23511870 4 6 6 N2 Injector Tube Auxiliary Seal Small A-2353148 4 6 6 N3 Injector Tube Kit - Threaded SST With seal (A-23533147) A-23533147 4 6 6 E3 Injector Tube Seal With seal (A-23534743) A-23534743 6 6 E3 Injector Tube Seal A-23536862 AR AR AR E3 Injector Tube Shim007" A-23536863 AR AR E3 Injector Tube Shim012" 1 notch A-23530768 26 38 38 38 Head Bolt Washe		AR	AR	AR	AR	Valve Rocker Arm Bushing - Wide	
A-23513939PR 4 6 6 6 Pin and Roller Kit Injector Rocker Arm A-23501580 4 6 6 6 N2 Injector Tube Kit With seal (A-23515470) A-23515470 4 6 6 6 N2 Injector Tube Seal A-5104701 4 6 6 N2 Injector Tube Auxiliary Seal Large A-23511870 4 6 6 N3 Injector Tube Auxiliary Seal Small A-23533148 4 6 6 N3 Injector Tube Kit - Threaded SST With seal (A-23533147) A-23533147 4 6 6 N3 Injector Tube Seal With seal (A-23534743) A-23534743 6 6 E3 Injector Tube Shim007" A-23536862 AR AR AR E3 Injector Tube Shim007" A-23536863 AR AR AR E3 Injector Tube Shim012" 1 notch A-23530768 AR AR B Injector Tube Shim018" 2 notches A-8929328 26 38 38 38 Head Bolt Kit Head Bolt Kit MCB60HBK	A-23538247PR	4	6	6	6		
A-23513939PR 4 6 6 6 Pin and Roller Kit Injector Rocker Arm A-23501580 4 6 6 6 N2 Injector Tube Kit With seal (A-23515470) A-23515470 4 6 6 6 N2 Injector Tube Seal A-5104701 4 6 6 N2 Injector Tube Auxiliary Seal Large A-23511870 4 6 6 N2 Injector Tube Auxiliary Seal Small A-23533148 4 6 6 N3 Injector Tube Kit - Threaded SST With seal (A-23533147) A-23533147 4 6 6 N3 Injector Tube Seal With seal (A-23534743) A-23534743 6 6 E3 Injector Tube Seal With seal (A-23534743) A-23536862 AR AR AR E3 Injector Tube Shim007" A-23536863 AR AR E3 Injector Tube Shim012" 1 notch A-23530768 26 38 38 38 Head Bolt A-8929328 26 38 38 38 Head Bolt Kit	A-23532937PR	4	6	6	6	Pin and Roller Kit Intake Rocker Arm	
A-23515470 4 6 6 N2 Injector Tube Seal A-5104701 4 6 6 N2 Injector Tube Auxiliary Seal Large A-23511870 4 6 6 N2 Injector Tube Auxiliary Seal Small A-23533148 4 6 6 N3 Injector Tube Kit - Threaded SST With seal (A-23533147) A-23533147 4 6 6 N3 Injector Tube Seal A-23534745 6 6 E3 Injector Tube Seal A-23536862 AR AR E3 Injector Tube Shim007" A-23536863 AR AR E3 Injector Tube Shim012" 1 notch A-23536864 AR AR E3 Injector Tube Shim018" 2 notches A-23530768 26 38 38 38 Head Bolt A-8929328 26 38 38 38 Head Bolt Kit MCB50HBK 1 1 1 Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit A-8929587 4 6 6 </td <td>A-23513939PR</td> <td>4</td> <td>6</td> <td>6</td> <td>6</td> <td>Pin and Roller Kit Injector Rocker Arm</td> <td></td>	A-23513939PR	4	6	6	6	Pin and Roller Kit Injector Rocker Arm	
A-23515470 4 6 6 N2 Injector Tube Seal A-5104701 4 6 6 N2 Injector Tube Auxiliary Seal Large A-23511870 4 6 6 N2 Injector Tube Auxiliary Seal Small A-23533148 4 6 6 N3 Injector Tube Kit - Threaded SST With seal (A-23533147) A-23533147 4 6 6 N3 Injector Tube Seal A-23534745 6 6 E3 Injector Tube Seal A-23536862 AR AR E3 Injector Tube Shim007" A-23536863 AR AR E3 Injector Tube Shim012" 1 notch A-23536864 AR AR E3 Injector Tube Shim018" 2 notches A-23530768 26 38 38 38 Head Bolt A-8929328 26 38 38 38 Head Bolt Kit MCB50HBK 1 1 1 Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit A-8929587 4 6 6 </td <td>A-23501580</td> <td>4</td> <td>6</td> <td>6</td> <td>6</td> <td>N2 Injector Tube Kit</td> <td>With seal (A-23515470)</td>	A-23501580	4	6	6	6	N2 Injector Tube Kit	With seal (A-23515470)
A-23511870 4 6 6 N2 Injector Tube Auxiliary Seal Small A-23533148 4 6 6 N3 Injector Tube Kit - Threaded SST With seal (A-23533147) A-23533147 4 6 6 N3 Injector Tube Seal With seal (A-23534743) A-23534743 6 6 6 E3 Injector Tube Kit - Threaded SST With seal (A-23534743) A-23536862 AR AR E3 Injector Tube Shim007" A-23536862 A-23536863 AR AR E3 Injector Tube Shim012" 1 notch A-23530768 26 38 38 Head Bolt A-8929328 26 38 38 Head Bolt Washer MCB50HBK 1 Head Bolt Kit Head Bolt Kit M-8929129 5 7 7 7 Cam Journal Cap Bolt A-8929587 4 6 6 6 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut	A-23515470	4	6	6	6	N2 Injector Tube Seal	
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A-23533147 4 6 6 N3 Injector Tube Seal A-23534745 6 6 E3 Injector Tube Kit - Threaded SST With seal (A-23534743) A-23534743 6 6 E3 Injector Tube Seal A-23536862 AR AR E3 Injector Tube Shim007" A-23536863 AR AR E3 Injector Tube Shim012" 1 notch A-23536864 AR AR AR E3 Injector Tube Shim018" 2 notches A-23530768 26 38 38 Head Bolt AR	A-23511870	4	6	6	6		
A-23534745 6 6 E3 Injector Tube Kit - Threaded SST With seal (A-23534743) A-23534743 6 6 E3 Injector Tube Seal A-23536862 AR AR E3 Injector Tube Shim007" A-23536863 AR AR E3 Injector Tube Shim012" 1 notch A-23536864 AR AR E3 Injector Tube Shim018" 2 notches A-23530768 26 38 38 Head Bolt A-8929328 26 38 38 Head Bolt Washer MCB50HBK 1 Head Bolt Kit Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit A-8929129 5 7 7 7 A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut	A-23533148	4		6	6	N3 Injector Tube Kit - Threaded SST	With seal (A-23533147)
A-23534743 6 6 E3 Injector Tube Seal A-23536862 AR AR E3 Injector Tube Shim007" A-23536863 AR AR AR E3 Injector Tube Shim012" 1 notch A-23536864 AR AR AR E3 Injector Tube Shim018" 2 notches A-23530768 26 38 38 Head Bolt A-8929328 26 38 38 Head Bolt Washer MCB50HBK 1 Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit A-8929129 5 7 7 7 A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut	A-23533147	4		6	6	N3 Injector Tube Seal	
A-23534743 6 6 E3 Injector Tube Seal A-23536862 AR AR E3 Injector Tube Shim007" A-23536863 AR AR AR E3 Injector Tube Shim012" 1 notch A-23536864 AR AR AR E3 Injector Tube Shim018" 2 notches A-23530768 26 38 38 Head Bolt A-8929328 26 38 38 Head Bolt Washer MCB50HBK 1 Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit A-8929129 5 7 7 7 A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut	A-23534745			6	6	E3 Injector Tube Kit - Threaded SST	With seal (A-23534743)
A-23536863 AR AR E3 Injector Tube Shim012" 1 notch A-23536864 AR AR AR E3 Injector Tube Shim018" 2 notches A-23530768 26 38 38 Head Bolt 38 38 Head Bolt Washer MCB50HBK 1 Head Bolt Kit Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit MCB60HBK 1 2	A-23534743			6	6		
A-23536864 AR AR AR E3 Injector Tube Shim018" 2 notches A-23530768 26 38 38 Head Bolt A-8929328 26 38 38 Head Bolt Washer MCB50HBK 1 Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit A-8929129 5 7 7 7 Cam Journal Cap Bolt A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 2 Cam Journal Cap Nut	A-23536862			AR	AR	E3 Injector Tube Shim007"	
A-23536864 AR AR AR E3 Injector Tube Shim018" 2 notches A-23530768 26 38 38 Head Bolt A-8929328 26 38 38 Head Bolt Washer MCB50HBK 1 Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit A-8929129 5 7 7 7 Cam Journal Cap Bolt A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 2 Cam Journal Cap Nut					AR		1 notch
A-8929328 26 38 38 Head Bolt Washer MCB50HBK 1 Head Bolt Kit MCB60HBK 1 1 Head Bolt Kit A-8929129 5 7 7 7 Cam Journal Cap Bolt A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut	A-23536864			AR	AR	E3 Injector Tube Shim018"	2 notches
A-8929328 26 38 38 Head Bolt Washer MCB50HBK 1 Head Bolt Kit MCB60HBK 1 1 Head Bolt Kit A-8929129 5 7 7 7 Cam Journal Cap Bolt A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut	A-23530768	26	38	38	38	Head Bolt	
MCB50HBK 1 Head Bolt Kit MCB60HBK 1 1 1 Head Bolt Kit A-8929129 5 7 7 7 Cam Journal Cap Bolt A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut						Head Bolt Washer	
MCB60HBK 1 1 1 Head Bolt Kit A-8929129 5 7 7 7 Cam Journal Cap Bolt A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut	MCB50HBK	1				Head Bolt Kit	
A-8929129 5 7 7 7 Cam Journal Cap Bolt A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut			1	1	1	Head Bolt Kit	
A-8929587 4 6 6 6 Cam Journal Cap Bolt A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut		5	7	7	7		
A-8929588 2 2 2 Cam Journal Cap Stud A-23500708 2 2 2 Cam Journal Cap Nut							
A-23500708 2 2 2 Cam Journal Cap Nut							
		2					
	A-8929586	6	8	8	8	Rocker Shaft Spacer	

ROCKER COVER MOUNTING 1 PIECE COVER

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23516322		1	1	1	Gasket, Cover to Head 4-bolt Grey	≤ 6/1999 MY
A-8929255		4	4	4	Isolator up to 1996	
A-5104514		4	4	4	Isolator Washer up to 1996	
A-23517911		4	4	4	Isolator/washer Assy. 1996 - 1999	
	•	•				
A-23522269		1	1	1	Gasket, Cover to Head 10-bolt Black	MY 6/1999 & up
A-23522271		10	10	10	Bolt & Isolator Assy.	MY 6/1999 & up
		`				
A-5101760		1	1	1	Breather element 1pc covers	

ROCKER COVER MOUNTING 2 PIECE COVER

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23511772	1				Gasket, Upper to Lower	
A-8929803		1	1	1	Gasket, Upper to Lower	≤ 6/1999 MY
A-11504822	6	8	8	8	Bolt - Upper to Lower Housing	
A-23516531	1				Gasket, Lower to Head	Valve Cover
A-23516322		1	1	1	Gasket, Lower to Head Grey	≤ 6/1999 MY
A-8929255		10	10	10	Isolator up to 1996	Lower housing to head
A-5104514		10	10	10	Isolator Washer up to 1996	Lower housing to head
A-23517911	8				Isolator/washer Assy.	Lower housing to head
A-23517911		10	10	10	Isolator/washer Assy. 1996 - 1999	Lower housing to head
A-23511991		1	1	1	Gasket, Upper to Lower	MY 6/1999 & up
A-11504822		8	8	8	Bolt - Upper to Lower Housing	MY 6/1999 & up
A-23522269		1	1	1	Gasket, Lower to Head Black	MY 6/1999 & up
A-23522271		10	10	10	Bolt & Isolator Assy. 6/99 & up	Lower housing to head

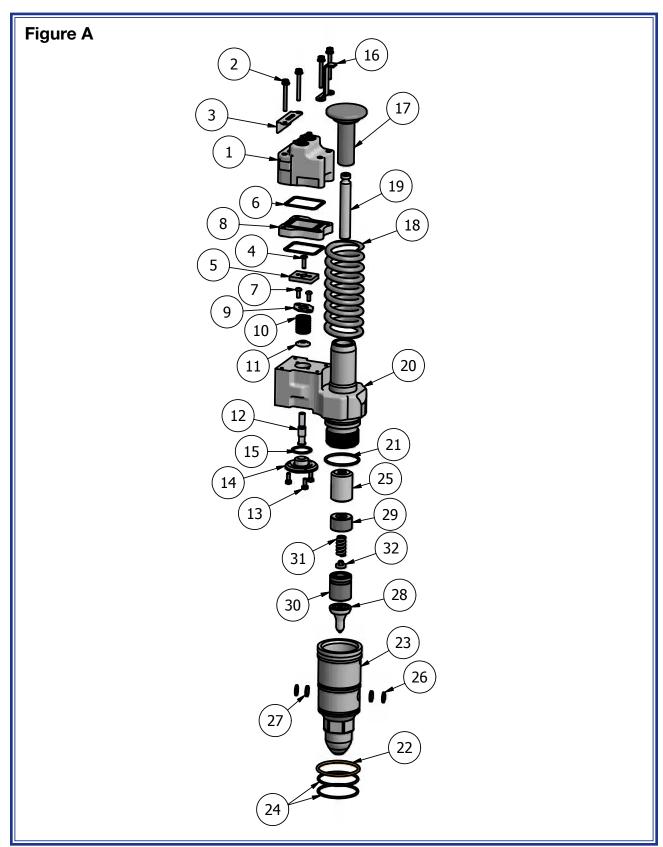
ROCKER COVER MOUNTING 3 PIECE COVER

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23506153		1	1	1	Gasket, Upper to Intermediate	≤ 6/1999 MY
A-11504822		8	8	8	Bolt - Upper to Intermediate Hsg.	
A-8929803		1	1	1	Gasket, Intermediate to Lower	≤ 6/1999 MY
A-11504822		8	8	8	Bolt - Intermediate to Lower Hsg	
A-23516322		1	1	1	Gasket, Lower to Head Grey	≤ 6/1999 MY
A-8929255		10	10	10	Isolator up to 1996	Lower housing to head
A-5104514		10	10	10	Isolator Washer up to 1996	Lower housing to head
A-23517911		10	10	10	Isolator/washer Assy. 1996 - 1999	Lower housing to head
A-23511992		1	1	1	Gasket, Upper to Intermediate	MY 6/1999 & up
A-11504822		8	8	8	Bolt - Upper to Intermediate Hsg.	
A-23511991		1	1	1	Gasket, Intermediate to Lower	MY 6/1999 & up
A-11504822		8	8	8	Bolt - Intermediate to Lower Hsg	
A-23522269		1	1	1	Gasket, Lower to Head Black	MY 6/1999 & up
A-23522271		10	10	10	Bolt & Isolator Assy. 6/99 & up	Lower housing to head

CRANKSHAFT SEALS

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23515598			1		Crankshaft Wide 6-hole	>6R188251 with cast pistons
A-23518355	1	1	1	1	Front Seal Assembly	Unitized seal & wear sleeve
A-23519651	1	1	1	1	Rear Seal & Wear Sleeve Assembly	Unitized seal & wear sleeve
A-23516969	1	1	1	1	Rear Seal & Wear Sleeve	
A-23513578	1	1	1	1	Rear Seal & Wear Sleeve	Wet housing
A-5100532	1	1	1	1	Flywheel Scuff Plate	

FUEL INJECTOR COMPONENTS



FUEL INJECTOR COMPONENTS

FIGURE A	PART #	DESCRIPTION	QTY.
1	4991685	SOLENOID (WITHOUT GROOVE)	1
2	A-5235586	SCREW, SOLENOID ASSEMBLY (4 REQUIRED PER INJECTOR)	4
3	4991452	LOAD PLATE	1
4	4991454	FLAT HEAD SCREW	1
5	4991453	ARMATURE - CALL WITH SIZES	1
6	A-5234224	SPACER SEAL, SOLENOID	2
7	4991455	PAN HEAD SCREW	2
8	4991456	SPACER, SOLENOID - CALL WITH SIZES	1
9	4991457	RETAINER, SPRING	1
10	4991458	SPRING, CONTROL VALVE	1
11	4991469	SEAT, CONTROL VALVE SPRING	1
12	4991459	CONTROL VALVE - CALL WITH SIZES	1
13	4991470	HEX HEAD SCREW	3
14	4991460	VALVE STOP - CALL WITH SIZES	1
15	4991539	O-RING, INTERNAL	1
16	4991450	RETAINER, FOLLOWER (OLD STYLE)	1
16	4991598	RETAINER, FOLLOWER (NEW STYLE)	1
17	4991444	FOLLOWER	1
18	4991597	SPRING, FOLLOWER (NEW STYLE)	1
19	4991446	PLUNGER	1
20	4991471	BODY ASSEMBLY	1
21	A-5234701	O-RING, INTERNAL	1
22	A-5234702	O-RING, EXTERNAL	1
23	4991636	NUT ASSEMBLY (FILTERS INSTALLED)	1
24	A-5234699	O-RING, EXTERNAL	2
25	4991462	SPACER	1
26	4991448	FILTER RETAINER (2 REQUIRED PER INJECTOR)	2
27	4991449	FILTER RETAINER (2 REQUIRED PER INJECTOR)	2
28		SPRAY TIP - SEE CHART ON NEXT PAGE	1
29	4991463	CHECK VALVE CAGE	1
30	4991465	VALVE SPRING CAGE	1
31	4991464	VALVE SPRING	1
32	4991466	VALVE SPRING SEAT	1

SPRAY TIPS

DRAWING NUMBER	INJECTOR PART NUMBER	SPRAY TIP PART NUMBER	NUMBER OF HOLES
28	R-5234785	4991753-C2A	9
28	R-5234795	4991754-D5	9
28	R-5234865	4991753-C1A	9
28	R-5234870	4991753-C2	9
28	R-5234935	4991753-C1	9
28	R-5234940	4991753-C3	9
28	R-5234945	4991754-D4	9
28	R-5234970	4991754-D3	9
28	R-5235550	4991752-B3	8
28	R-5235575	4991752-B5	8
28	R-5235580	4991751-A1	8
28	R-5235600	4991754-D2	9
28	R-5235605	4991753-C1	9
28	R-5235695	4991754-D3	9
28	R-5235915	4991752-B6	8
28	R-5236347	4991752-B4	8
28	R-5236977	4991752-B3	8
28	R-5236978	4991751-A1	8
28	R-5236980	4991752-B4	8
28	R-5236981	4991752-B1	8
28	R-5237014	4991754-D2	9
28	R-5237042	4991751-A2	8
28	R-5237045	4991752-B4	8
28	R-5237099	4991752-B2	8
28	R-5237315	4991748-E3	9
28	R-5237320	4991754-D2	9
28	R-5237466	4991752-B5	8
28	R-5237473	4991748-E5	9
28	R-5237635	4991753-C2	9
28	R-5237650	4991754-D1	9
28	R-5237787	4991753-C1	9
28	R-5237820	4991753-C1A	9
28	R-5237821	4991753-C1A	9

ELECTRONIC FUEL INJECTOR KITS

QTY	PART #	DESCRIPTION	Contains Ref # in Fig. A
1	MCBS60INJ	Installation Kit DDEC II-IV	22, 24 plus upper & lower auxilliary seals (not shown)
1	A-23537111	Installation Kit DDEC V (N3)	Seals, gasket, bolt & washer
1	A-23537123	Installation Kit DDEC V (E3)	Seals, bolt & washer
1	A-5236116	Solenoid Seal & Screw Kit	2, 6
1	MCB26210	Nut Assembly O-ring Kit	21, 22, 23
1	MCB26209	Internal O-ring Kit	6, 15, 21
1	A-5234699K	Complete O-ring Kit	6, 15, 21, 22, 24 plus upper & lower auxilliary seals
1	A-23528939	Follower Spring & Retainer Kit	2, 16, 18
1	A-5230001	Repair Kit	2, 4, 6, 7, 10, 13, 15, 21, 22, 24, 31, 32, plus upper & lower auxilliary seals

REBUILT INJECTORS

PART #	DESCRIPTION	CORE CODE
R-5234785	REBUILT INJECTOR, S60, 11.1L, 12.7L	C-S60DDEC1
R-5234795	REBUILT INJECTOR, S60, 12.7L	C-S60DDEC2
R-5234865	REBUILT INJECTOR, S60, 11.1L	C-S60DDEC2
R-5234870	REBUILT INJECTOR, S60, 11.1L	C-S60DDEC2
R-5234935	REBUILT INJECTOR, S60, 11.1L	C-S60DDEC2
R-5234940	REBUILT INJECTOR, S60, 11.1L, 12.7L	C-S60DDEC2
R-5234945	REBUILT INJECTOR, S60, 12.7L	C-S60DDEC2
R-5234970	REBUILT INJECTOR, S60	C-S60DDEC2
R-5235550	REBUILT INJECTOR, S50/60	C-S60DDEC3/4
R-5235575	REBUILT INJECTOR, S50/60, 12.7L	C-S60DDEC3/4
R-5235580	REBUILT INJECTOR, S60, 11.1L	C-S60DDEC3/4
R-5235600	REBUILT INJECTOR, S50/60 (8.5L S50)	C-S60DDEC3/4
R-5235605	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5235695	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5235915	REBUILT INJECTOR, S50/60	C-S60DDEC3/4
R-5236347	REBUILT INJECTOR, S50	C-S60DDEC3/4
R-5236977	REBUILT INJECTOR, S50/60	C-S60DDEC3/4
R-5236978	REBUILT INJECTOR, S50/60	C-S60DDEC3/4
R-5236980	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5236981	REBUILT INJECTOR, S50	C-S60DDEC3/4
R-5236995	REBUILT INJECTOR, S50	C-S60DDEC3/4
R-5237014	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5237042	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5237045	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5237099	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5237466	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5237473	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5237635	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5237650	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5237787	REBUILT INJECTOR, S50/60	C-S60DDEC3/4
R-5237820	REBUILT INJECTOR, S60	C-S60DDEC3/4
R-5237821	REBUILT INJECTOR, S60	C-S60DDEC3/4

C-S60DDEC1, C-S60DDEC2, C-S60DDEC3/4

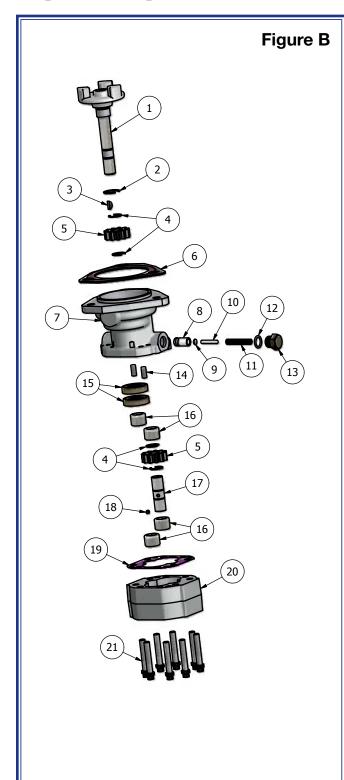
Each core can be identified by the tower of the body, underneath the spring.

The C-S60DDEC2 core has two distinct steps and the C-S60DDEC3/4 has a tapered tower.

Series 60 cores with a broken or missing terminal screw will not be accepted.



FUEL PUMP



PART #	DESCRIPTION
R-7351/8/15	REBUILT, SERIES 60 FUEL PUMP, AIR COMPRESSOR DRIVE

FIGURE B	PART #	DESCRIPTION	QTY. REQ'D
1	A-23532977	SHAFT & HUB ASSEMBLY	1
2	4991902	RETAINER RING (LARGE)	1
3	4992018	KEY	1
4	A-8923522	SNAP RING	4
5	A-23506546	GEAR	2
6	A-23505248	GASKET, BODY	1
7	4991793	BODY, PUMP	1
8	A-8923528	VALVE, RELIEF	1
9	A-23506560	SPACER	1
10	A-23506564	PIN	1
11	A-23506557	SPRING, RELIEF VALVE	1
12	A-23506556	SEAL	1
13	A-23506555	CAP, RELIEF VALVE	1
14	A-23500694	ALIGNMENT PIN	2
15	A-23512243	OIL SEAL	2
16	A-8923526	NEEDLE BEARING	4
17	A-23506549	SHAFT, DRIVEN	1
18	A-8923521	PIN, GEAR	1
19	A-23516117	GASKET, COVER	1
20	4991794	COVER, PUMP	1
21	A-23506551	SCREW W/LOCK WASHER	8

ADDITIONAL PARTS & KITS

PART #	DESCRIPTION
A-23505249	SHOCK COUPLING, SPIDER
A-23517845RK	REPAIR KIT, FUEL PUMP, S60
A-23517845RK-S	REPAIR KIT, FUEL PUMP, S60 WITH SHAFT
A-23517845RK-SG	REPAIR KIT, FUEL PUMP, S60 WITH SHAFT AND GEARS

FUEL SYSTEM MISCELLANEOUS

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
MCBS60INJ	4	6	6	6	Installation Kit DDEC II-IV	▲denotes items in kit
A-5234702	4	6	6	6	▲O-ring Seal, Injector Mtg	Upper
A-5234699	8	12	12	12	▲O-ring Seal, Injector Mtg	Lower
A-5104701	4	6	6	6	▲Upper Auxiliary Seal	
A-23511870	4	6	6	6	▲Lower Auxiliary Gasket	
A-23537111	4		6	6	Installation Kit DDEC V (N3)	Seals, gasket, bolt & washer
A-23537123			6	6	Installation Kit DDEC V (E3)	Seals, bolt & washer
A-J35637A	AR	AR	AR	AR	Timing Gauge, 78.2	
A-J39697	AR	AR	AR	AR	Timing Gauge, 78.8	
A-J42665	AR	AR	AR	AR	Timing Gauge, 80.3	
A-5236116	4	6	6	6	Solenoid Seal & Screw Kit	DDEC II-IV
A-23516918	AR	AR	AR	AR	Fuel Check Valve	3/8 NPTF male x # 8 male flare
A-23516919	AR	AR	AR	AR	Fuel Check Valve	3/8 NPTF female x # 8 male flare
A-23516993	AR	AR	AR	AR	Fuel Check Valve	3/8 NPTF female x # 6 male flare
A-23512307	8	8	8	8	Isolator, ECM Mounting	

ENGINE SENSORS

A-23522322			1	1	Sensor - Air Pressure Turbo Boost
A-8929387		1	1	1	Sensor - SRS
A-8929388		1	1	1	Sensor - TRS
A-23514708	1	1	1	1	Sensor - Coolant Temp
A-23527338				1	Sensor - SRS DDEC V
A-23527339				1	Sensor - TRS DDEC V
A-23515251			1	1	Sensor - Oil Temp
A-23532787		1	1	1	Sensor - Oil Pressure
A-23518092	1	1	1	1	Sensor - Temperature Oil, Water, Fuel, Air

TURBOCHARGER ASSEMBLIES

PART #	DESCRIPTION	MODEL	PART #	DESCRIPTION	MODEL
A-8929435	Turbocharger	TV51	A-23518588	Turbocharger	TMF55
A-8929507	Turbocharger	TV51	A-23518597	Turbocharger	TMF55
A-8929796	Turbocharger	TV51	A-23522188	Turbocharger	GT4294
A-8929797	Turbocharger	TV51	A-23522189	Turbocharger	GT4202
A-8929902	Turbocharger	TV51	A-23522190	Turbocharger	GT4202
A-8929903	Turbocharger	TV51	A-23522312	Turbocharger	GT4202
A-23503732	Turbocharger	TV51	A-23525463	Turbocharger	GTA42
A-23504966	Turbocharger	TMF51	A-23526016	Turbocharger	
A-23504967	Turbocharger	TMF51	A-23526271	Turbocharger	
A-23507908	Turbocharger	TV4501	A-23526272	Turbocharger	
A-23507909	Turbocharger	TV4501	A-23526679	Turbocharger	GT4294
A-23508405	Turbocharger	TV4502	A-23528052	Turbocharger	GTA4294
A-23508406	Turbocharger	TV4502	A-23528059	Turbocharger	GTA4202
A-23508410	Turbocharger	TMF5102	A-23528062	Turbocharger	
A-23508411	Turbocharger	TMF5102	A-23528064	Turbocharger	GT4202
A-23515635	Turbocharger	TMF55	A-23528065	Turbocharger	GTA4294
A-23515636	Turbocharger	TMF55	A-23528069	Turbocharger	GTA4294
A-23516431	Turbocharger	TMF55	A-23529103	Turbocharger	
			A-23535324	Turbocharger	GTA4294

LUBRICATION SYSTEM

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23511580	1				Oil Pan Seal	
A-8929102		1	1	1	Oil Pan Seal - up to April 1999	Separate bolt, isolator & sleeve
A-23517243	8	10	10	10	Spacer	
A-23517242	8	10	10	10	Isolator	
A-11504571	8	10	10	10	Bolt	
A-23522282		1	1	1	Oil Pan Assembly - Front Sump	April 1999 & up
A-23522279		1	1	1	Oil Pan Seal - April 1999 & up	One piece bolt & isolator assy.
A-23522281		10	10	10	Bolt, isolator & spacer assy.	
A-5126327		2	2	2	Spring Reg & Rel Valve	
A-8922740		2	2	2	Valve, Regulator& Relief	
A-23505886		1	1	1	Oil Pump Assembly	Option type #198
A-23505992		1	1	1	Oil Inlet Pipe Gasket	
A-23511656	1				Oil Inlet Pipe Gasket	
A-23505891		1	1	1	Oil Outlet Pipe O-ring	
A-23505892	2	1	1	1	Oil Outlet Pipe O-ring	
A-23522416	1	1	1		Cooler Core 10-plate	MY 1991 & up
A-23522415			1	1	Cooler Core 11-plate	MY 1991 & up
MCBS0060	1	1	1	1	Kit, Oil Cooler Installation	▲denotes items in kit
A-23506247	1	1	1	1	▲Gasket, Cooler Housing	MY 1991 & up
A-23508392	2	2	2	2	▲Seal Ring, Core to Filter Head	MY 1991 & up
A-8929289	1	1	1	1	▲Seal Ring, Hsg Neck to Block	MY 1991 & up
A-23505902	1	1	1	1	▲Seal Ring, Bypass	MY 1991 & up
A-23508392	1	1	1	1	▲Seal Ring, Filter Hsg to Block	MY 1991 & up

COOLING SYSTEM

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23522707	1	1	1		Water Pump Assembly	6R37023 - 6R579833
A-23520377					Mounting Seal Ring Square Cut	
A-23526039	1	1	1	1	Water Pump Assembly	6R579834 & up Non-EGR
A-23526038					Mounting O-ring	
A-23535017	1	1	1	1	Water Pump Assembly	EGR
A-23527272					Mounting O-ring	
A-23529962	1	1	1	1	Water Pump Reconditioning Kit	▲denotes items in kit
A-8922407	1	1	1	1	Cover Retainer Ring	
A-8922383	1	1	1	1	Cover - Non-metallic	
A-23512048	1	1	1	1	▲Cover Seal Ring	
A-23517973	1	1	1	1	Impeller 6-vane C.I.	
A-23522433	1	1	1	1	▲Water Seal Assembly	
A-23528190	1	1	1	1	▲Oil Seal	
A-23505896	1	1	1	1	Pump Shaft	
A-8929422	1	1	1	1	▲Bearing Assembly	
A-8929427	1	1	1	1	▲Bearing Retainer Ring	
A-23505910	1	1	1	1	Gear	
					_	
A-23503827			2		Thermostat 160°	
A-23503825			2	2	Thermostat 180°	
A-23533312			2	2	Thermostat 185° (A-23533492 Kit)	Kit = 1-t/stat & 1-seal
A-8929878	2	2	2	2	Thermostat 190° (A-23532436 Kit)	Kit = 1-t/stat & 1-seal
A-5132155	2	2	2	2	Seal	
A-8929875		2	2	2	Hose, Water Bypass	1.75" x 3.25"
A-23505048		4	4	4	Clamp, Water Bypass	
A-23506325		2	2	2	Hose, W/P to Cooler Hsg	2.75" x 3.01"

VIBRATION DAMPER

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-8929502	1	1	1	1	Damper 13.5" April 1993 & up	(A-23525990)
A-8929222	6	6	6	6	Bolt	
A-5133981	6	6	6	6	Washer	

EXHAUST SYSTEM

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-23511666	2	3	3	3	Gasket, Exhaust Manifold Mtg.	
A-8929357	8	AR	AR	AR	Bolt, Exhaust Manifold Mtg.	
A-11506101		AR	AR	AR	Nut, Exhaust Manifold Mtg.	
A-8929529	1	1	1	1	Gasket, Turbo Mounting	
A-23507438	4	4	4	4	Turbo Mounting Stud	M10 1.5 x 44
A-8929425	4	4	4	4	Turbo Mounting Stud	M10 1.5 x 50
A-11506101	4	4	4	4	Turbo Mounting Nut	
A-8929169	4	4	4	4	Turbo Mounting Washer	

AIR COMPRESSOR DRIVE

PART #	S50 8.5L	S60 11.1L	S60 12.7L	S60 14L	DESCRIPTION	NOTE
A-5141773	1	1	1		Coupling, Compressor to Drive	≤ My1994
A-23515145	1	1	1		Gasket, Compressor to Drive	≤ My1994
A-8929299	1	1	1		Gasket, A/C or Drive to Gear Case	
A-5110410	1	1	1	1	Gasket, Air Strainer Mtg	

GASKET LISTING

DESCRIPTION	NOTE	PART#	S50	S60
Accessory Drive Seal Ring	Drive to front cover	A-8929253	1	1
Air Compressor Drive Gasket		A-8929299	2	2
Air Compressor Mounting Gasket		A-23515145	1	1
Boost Sensor Seal		A-5182977	1	1
Cam Access Cover Gasket		A-8929130	1	2
Cam Thrust Plate Perimeter Seal		A-23528491	1	1
Cam Thrust Plate Perimeter Seal	EGR - Units	A-23527416		1
Cam Thrust Plate Seal - 2 Bolt	Plate to head	A-23521935		1
Cam Thrust Plate Seal - 3 Bolt	Plate to head	A-23521894	1	1
Exhaust Manifold Gasket		A-23511666	2	3
Front Cam Cap Seal Ring	Racetrack	A-23522975	1	1
Front Cover Seal Ring		A-5141452	1	1
Fuel Pump Drive Seal Ring	Pump drive to front cover	A-8929253	1	1
Fuel Pump Mounting Gasket	Earl style pump to drive	A-5150193	1	1
Fuel Pump Mounting Gasket - Late	Pump to air compressor	A-23505248	1	1
Gear Case Seal ring	Case to block	A-8929740	1	1
Intake Manifold Gasket		A-23517875	2	3
Intake Manifold Gasket	EGR engines	A-23531110		3
Oil Cooler Core Gasket	Prior to 1991 MY	A-8929348		1
Oil Cooler Core Gasket	MY 1991 & up	A-23506247	1	1
Oil Cooler Housing Seal Ring	Neck to block	A-8929289	1	1
Oil Filler Tube Gasket	Tube to block	A-8929302	1	1
Oil Filter Housing Seal Ring	MY 1991 & up bypass	A-23505902	1	1
Oil Filter Housing Seal Ring	MY 1991 & up	A-23508392	1	1
Oil Outlet Tube Seal Ring	Front	A-23505891		1
Oil Outlet Tube Seal Ring	Rear	A-23505892	2	1
Oil Pan Seal		A-23511580	1	
Oil Pan Seal - April 1999 & up	Black, One piece bolt & isolator assy.	A-23522279		1
Oil Pan Seal - up to April 1999	Grey, Separate bolt, isolator & sleeve	A-8929102		1
Oil Pickup Tube Gasket	Tube to pump	A-23505992		1
Oil Pickup Tube Gasket	Tube to pump	A-23511656	1	
Oil Pressue Regulator Gasket		A-5117269		1
Oill Cooler Core Seal Ring	MY 1991 & up	A-23508392	2	2
Rocker Cover Gasket		See Pa	ge 11	
Thermostat Seal		A-5132155	2	2
Turbo Mounting Gasket		A-8929529	1	1
Turbo Oil Drain Gasket		A-8929285	1	1
Water Pump Mounting Seal	Square cut	A-23520377	1	1
Water Pump Mounting Seal	O-ring	A-23526038	1	1

FL-800-660-6228	
CA-800-522-6163	

NOTES

OH-800-321-4234



New and Remanufactured Replacement Parts for DETROIT DIESEL®

Interstate-McBee, LLC LIMITED General Products Warranty

- All Fuel Injection, New & Remanufactured
- Engine Management Systems & Components

COVERAGE

The parts furnished by Interstate-McBee are warranted to be free from defects in material and workmanship under normal use and service for a period of twelve (12) months (unlimited miles and hours), from date of first installation in an engine. This warranty applies to all owners in the chain of distribution, i.e. distributor, dealer, original owner, until the end of the respective periods of coverage and shall not apply to subsequent owners.

This warranty does not apply to parts provided by Interstate Interstate-McBee on a no-charge basis. In no event shall this warranty extend beyond twenty four (24) months from date of sale or manufacture.

INTERSTATE-MCBEE RESPONSIBILITIES

The obligation of Interstate-McBee under this warranty, statutory or otherwise, is limited to the replacement or repair of Interstate-McBee parts, which our inspection discloses to our satisfaction to have been defective. Repair will be performed at our factory in Cleveland, OH or other Interstate-McBee approved facility. Proof of purchase is required.

OWNER'S RESPONSIBILITIES

Owner is responsible for the operation and maintenance of the engine as specified in the APPLICABLE O.E.M. OPERATION AND MAINTENANCE MANUALS. Owner must give notice within (30) days of any suspected failure and before expiration of applicable warranty to be considered warrantable. Owner will provide alleged defective and associated parts for examination by Interstate-McBee and, if requested, return same F.O.B. Cleveland, Ohio. Interstate-McBee further reserves the right to examine any engine subject to a claim under this warranty. Owner is responsible for all costs, including, but not limited to, repairs made to items other than the engine in which the parts are installed, "downtime" expenses and all business costs and losses resulting from a warrantable failure. Copies of all work orders and invoices for repairs to the engine must accompany the claim. Additionally, on electronically controlled engines a complete Electronic Control Module (ECM) report (Extraction, Download) must also accompany the claim. ALL CLAIMS MUST BE FILED ONLINE AT WWW.INTERSTATE-MCBEE.COM.

WARRANTY LIMITATIONS

Interstate-McBee is not responsible for failure resulting from owner or operator abuse or neglect, such as, but not limited to: operation without adequate coolant, fuel or lubricants; over-speeding; lack of maintenance of lubricating system, coolant or air intake systems; improper storage, or starting. Interstate-McBee is not responsible for failures resulting from improper repair or installation, for parts that have been altered or for parts not approved by Interstate-McBee. This warranty does not apply to parts furnished on a no charge basis. Interstate-McBee does not warrant parts supplied by Interstate-McBee which bear the name and or trademark of another company. These parts are warranted by their manufacturers and not by Interstate-McBee. In no event shall this warranty extend beyond (twenty four (24) months from the date of sale. THERE ARE NO WARRANTIES EXPRESSED, IMPLIED OR STATUTORY, FOR THE PARTS NAMED HEREIN BEFORE, MADE BY INTERSTATE-MCBEE OTHER THAN SET FORTH HEREIN. We neither assume nor authorize any other persons to assume for us any other liability in connection with our products. INTERSTATE-MCBEE SHALL NOT BE RESPONSIBLE FOR ANY OTHER CONSEQUENTIAL DAMAGES OR CONTINGENT LIABILITIES. Further, in no event shall Intestate-McBee bear any responsibility for any damages, which exceed the then available aggregate coverage provided under the terms and conditions of its product liability policy.

This warranty shall be interpreted, governed and enforced in accordance with the laws of the State of Ohio, U.S.A. (For products not covered herein, see Interstate-McBee's Extended Warranty). Any actions or proceedings relating to this warranty must be filed or commenced within three (3) months of the alleged breach. If any of these warranty provisions or portions thereof is prohibited by law or by any court of competent jurisdiction, in any locality, its invalidity or unenforceability shall not affect the validity or the enforceability of any other warranty provisions or portions thereof.

INTERSTATE-McBEE, LLC 4901 LAKESIDE AVENUE, CLEVELAND, OHIO 44114-3996

New and Remanufactured Replacement Parts for DETROIT DIESEL®



Interstate-McBee, LLC LIMITED Extended Warranty
• Engine Parts

COVERAGE

Diesel Engine

New engine parts furnished by Interstate-McBee are warranted to be free from defects in material and workmanship under normal use and service for a period of twenty-four (24) months from the date of installation, without mileage or hour limitation. This warranty applies to all owners in the chain of distribution, i.e. distributor, dealer, original owner, until the end of the respective periods of coverage and shall not apply to subsequent owners.

Natural Gas or Methane Engine and Prime Power Generation

New engine parts furnished by Interstate-McBee are warranted to be free from defects in material and workmanship under normal use and service, for a period of twenty four (24) months from the date of installation with the exception of valve train components which are warranted for twelve (12) months from the date of installation. This warranty applies to all owners in the chain of distribution, i.e. distributor, dealer, original owner, until the end of the respective periods of coverage and shall not apply to subsequent owners.

INTERSTATE-MCBEE RESPONSIBILITIES

Interstate-McBee will pay only for parts, labor and fluids needed to repair damages directly resulting from an above defined warranty failure to the functional condition existing immediately prior to the failure, including progressive damage to the engine in which the warrantable part was installed, provided Interstate-McBee's inspection of said failed part or parts discloses to our satisfaction to have been defective. Labor cost will be paid but not to exceed published flat rates times at Interstate-McBee's standard hourly rate. No overtime or holiday rates will be allowed. Only new or rebuilt Interstate-McBee or Interstate-McBee approved parts will be used in making the repair.

OWNER'S RESPONSIBILITIES

Owner is responsible for the operation and maintenance of the engine as specified in the APPLICABLE O.E.M. OPERATION AND MAINTENANCE MANUALS. Owner must give notice within (30) days of any suspected failure and before expiration of applicable warranty to be considered warrantable. Owner will provide alleged defective and associated parts for examination by Interstate-McBee and, if requested, return same F.O.B. Cleveland, Ohio. Additionally, a complete Electronic Control Module report must accompany the claim. Interstate-McBee further reserves the right to examine any engine subject to a claim under this warranty. Approved warranty work is to be performed by an authorized Interstate-McBee Distributor or Dealer or other Interstate-McBee approved facility. Copies of all work orders and invoices for repairs to the engine must accompany the claim. Owner is responsible for all costs, including, but not limited to, repairs made to items other than the engine in which the parts are installed, "downtime" expenses and all business costs and losses resulting from a warrantable failure. ALL CLAIMS MUST BE FILED ONLINE AT WWW.INTERSTATE-MCBEE.COM

WARRANTY LIMITATIONS

Interstate-McBee is not responsible for failure resulting from owner or operator abuse or neglect, such as, but not limited to: operation without adequate coolant, fuel or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, coolant or air intake systems; improper storage, starting, warm-up, run-in or shut down practices. Interstate-McBee is not responsible for failures resulting from improper repair or installation, for parts that have been altered or for parts not approved by Interstate-McBee. This warranty does not apply to parts furnished on a no charge basis. Interstate-McBee does not warrant parts supplied by Interstate-McBee which bear the name and trademark of another company. These parts are warranted by their manufacturers and not Interstate-McBee... In no event shall this warranty extend beyond (36) months from the date of sale. THERE ARE NO WARRANTIES EXPRESSED, IMPLIED OR STATUTORY, FOR THE PARTS NAMED HEREIN BEFORE, MADE BY INTERSTATE-MCBEE OTHER THAN SET FORTH HEREIN. We neither assume nor authorize any other persons to assume for us any other liability in connection with our products. INTERSTATE-MCBEE SHALL NOT BE RESPONSIBLE FOR ANY OTHER CONSEQUENTIAL DAMAGES OR CONTINGENT LIABILITIES. Further, in no event shall Intestate-McBee bear any responsibility for any damages, which exceed the then available aggregate coverage provided under the terms and conditions of its product

This warranty shall be interpreted, governed and enforced in accordance with the laws of the State of Ohio, U.S.A. (For products not covered herein, see Interstate-McBee's General Product Warranty.) Any actions or proceedings relating to this warranty must be filed or commenced within three (3) months of the alleged breach. If any of these warranty provisions or portions thereof prohibited by law or by any court of competent jurisdiction, in any locality, its invalidity or unenforceability shall not affect the validity or enforceability of any other warranty provisions or portions thereof.

INTERSTATE-MCBEE L.L.C, 4901 LAKESIDE AVENUE, CLEVELAND, OHIO 44114-3996

U.S.A. Presidential Award



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