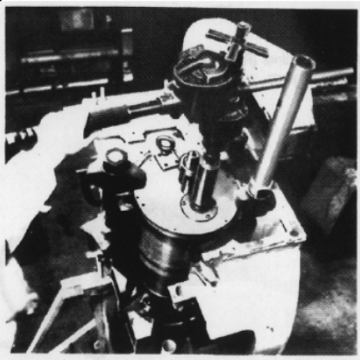
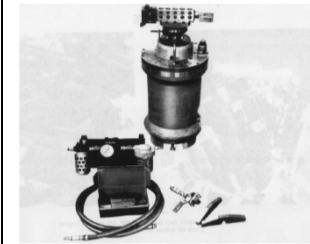
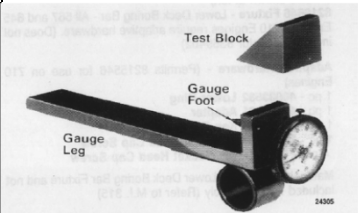
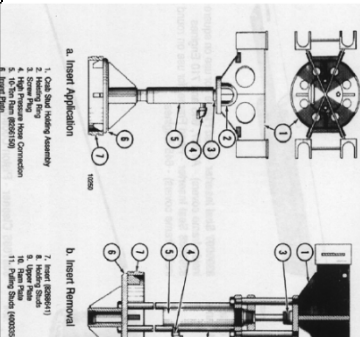
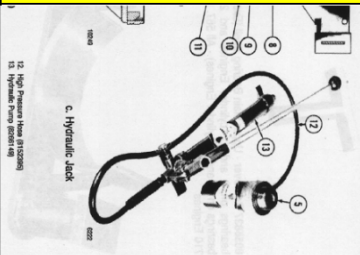
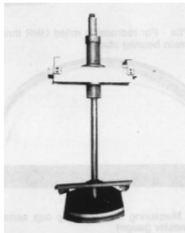
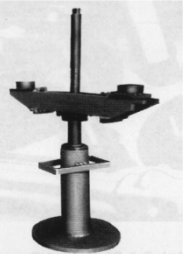

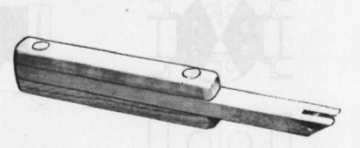
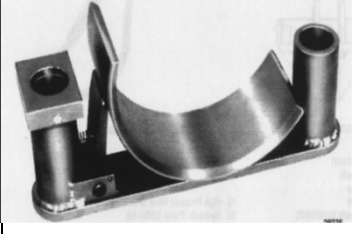
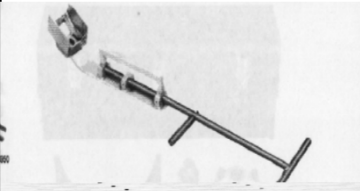

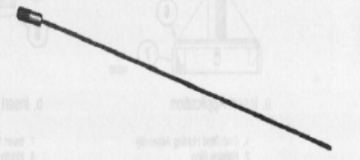
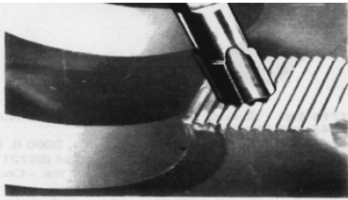
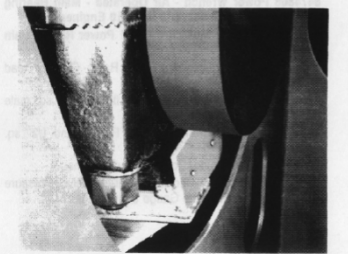
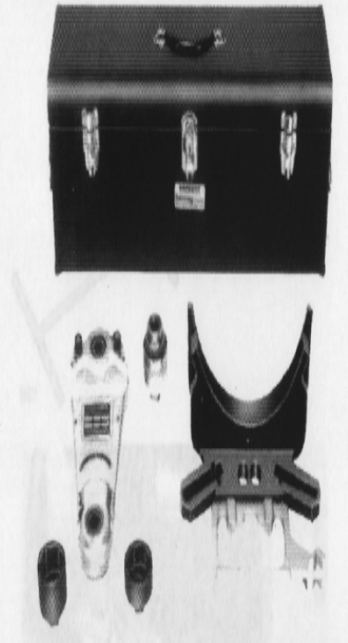
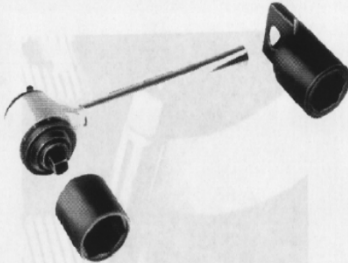
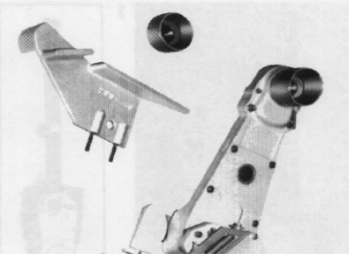

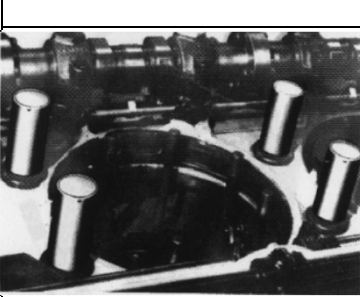
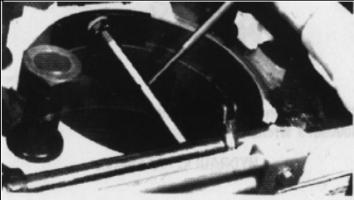
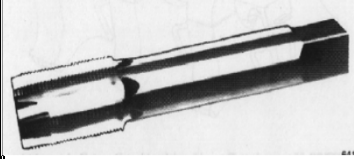
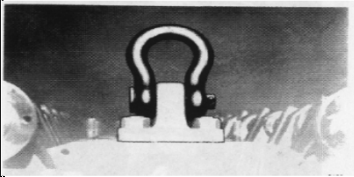
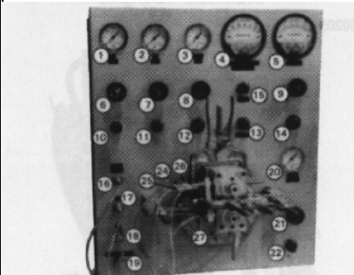
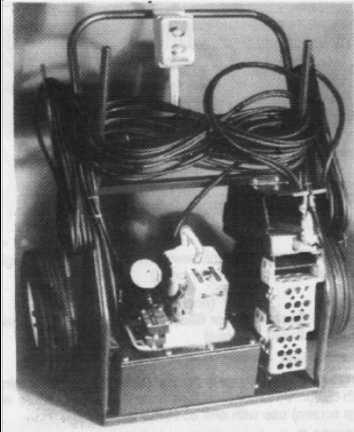



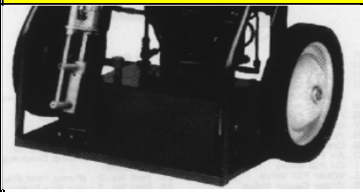
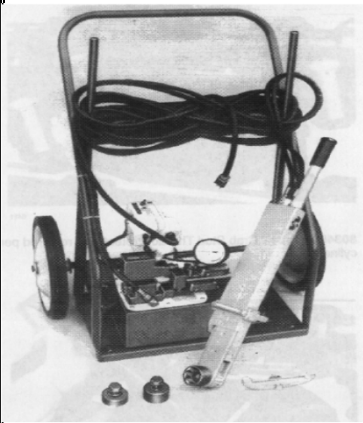
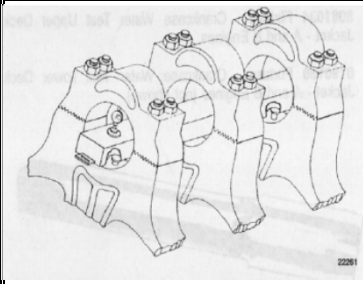
picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	8048353	fixture- upper boring -all 567,645,and 710 engines (does not iclude air motor 8359402	1
	F	1	8359402	Drill - air motor reversible multivane (applicable to lower deck fixture 8215546 and upper deck fixture 8048353)	2
	F	1	8215546	fixture - lower deck boring bar - all 567 and 645 engines . 710 engines require adaptive hardware (does not include air motor 8359402 adaptive hardware - (permits 8215546 for use on 710 engines) 1 pc - 40033532 lowre ring 1 pc - 40033531 adapter 1 pc - 40033530 key - rectangular 1 pc - 138201 hex soket head cap screw 4 pc- 138300 hex socket head cap screw material needed with lower deck boring bar fixture and not included with assembly (refe to M.I.315)	3
	F	1	8152217	Stop - air motor	4
	F	1	8215554	Ring - pilot for 12.090" upper pilot bore	5
	F	1	9509391	tool - resurfacing cylinder head retainer (refer to M/I/136) 567c,D, 645 and 710 engines	6
	F	2	9509391	Gauge - wear step head retainer - used with 9509391	7
	F	2	9320756	block - wear sep calibration - used with 9320750	8
	F	2	8275379	Tool - lower liner removing and installing all engines	9
	F	2	*8078281	Jack - lower liner insert removal and appliction	10
	F	2	*8275380	press and puller - liner insert	11
	F	2	9311252	Adapter - new ram	12
	F	2	8282912	Oil - hydraulic - jack -1 qt can	13

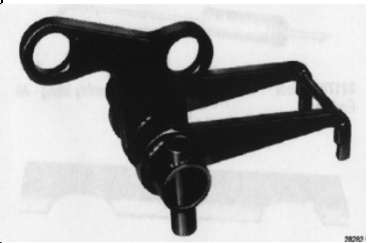
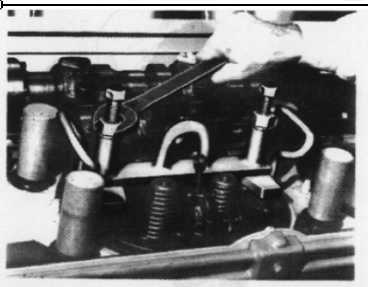
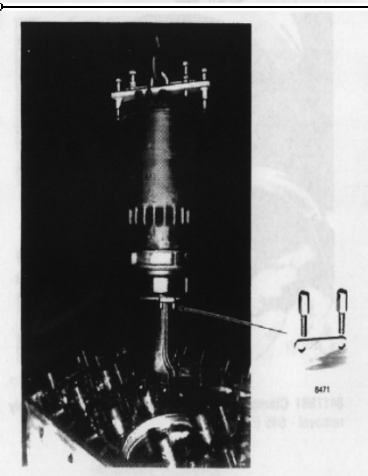
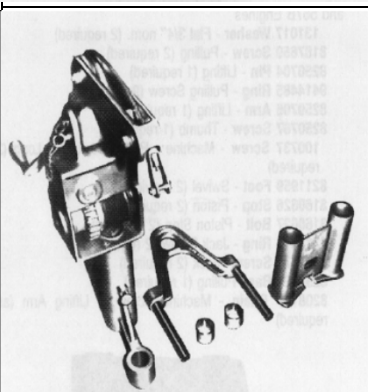
picture	F/L	QTY TOTAL	Part number	description	Item
	F	2	40033019	Adapter - 710 engine puller (not shown) *included in 8275379 Tool hydraulic 10 ton	14
	F	2	9528882	installer - lower liner insert	15
	F	2	9528883	Remover - lower liner insert	16
	F	2	8055837	Remover - upper main bearing shell (except rear bearing on 8 and 12 cylinder engine and 2 center bearing on 16 and 20 cylinder engine) all 567,645, and 710 engine	17
	F	2	8399007	Seal inserter - head frame (for use on square top inside frame covers) - all 587, 645 and 710 engines	18
	F	2	8399008	Seal inserter - head frame (for use on round top inside frame covers) - all 645 engines	19
	F	2	8488833	Rrmover - upper main bearing to remove all main bearing shells / all567 and 645 engines	20
	F	2	40004154	Remover - 710 engines only	21
					22
	L	2	8087086	Cleaner - piston cooling oil pipe	23
	L	2	8488128	Plate - pre-crush (line bore) not for 567 B and earlier engines (not shown)	24

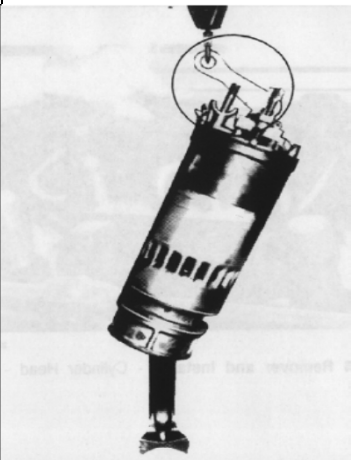
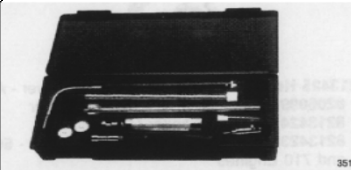
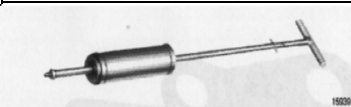


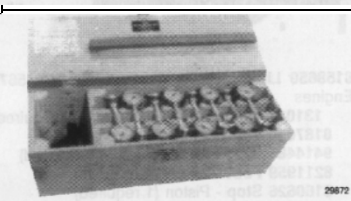
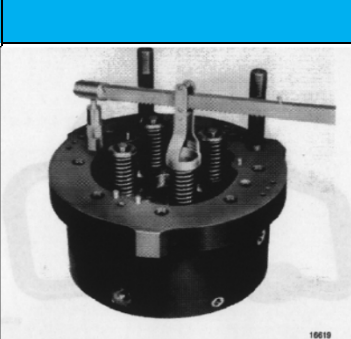
picture	F/L	QTY TOTAL	Part number	description	Item
	F	2	8060387	Tap - 1-1/4" -12 main bearing stud a-b and bc engines	25
	F	2	8072945	Tap - 1-17/64" -12 (0.015" oversize) main bearing stud a , b and bc engine	26
	F	2	8164416	Tap - 1-5/16" -12 (0.016" oversize) main bearing stud a , b and bc engine	27
	F	2	8164417	Tap - 1-9/32" -12 (0.031" oversize) main bearing stud a , b and bc engine	28
	F	2	8165480	Tap - 1-3/8" -12 (0.125" oversize) main bearing stud a , b and bc engine	29
	F	2	8487487	Tool - main bearing cap application (installation and removal of caps) all 567 and 645 engines (not recommended for 710 engines) . A support (not shown) is provided with the tool the support on which the tool can slide may be bolted on at the oil pan handhole if desired	30
	F	2	8484552	Anchor plate support plate angle drive -1:1 ratio -95 (includes 1/2" and 3/4" sp . Male adapters) socket - anchor 3" I.D.	31
	F	2	8211090	socket - drive 2- 3/4" hex . 1-1/2" sp . Male drive	32
	F	2	8140761	adapter ratchet 3/4" sp mal drive	33
	F	2	8474773	socket - short 1-7/8" hex tilt-on 1" deep	34
	F	2	8474774	socket - short 1-7/8" hex tilt-on 1 17/32" deep . Chest - 37" * 13-1/2" * 14" (accommodates 2 wrenches	35
	F	2	8437890	kit - anchor- includes reaction cradle assembly and nchor plate (not shown)	36
	F	2	8474807	power wrench -manual - main bearing nuts 567d and 645 engines	37
	F	2	8335627	power wrench - : 1 power ratio	38
	F	2	8413343	anchor plate assembly	39
	F	2	8474773	socket - short 1-7/8" hex . Tilt -on - 1" deep	40
	F	2	8474774	socket - long 1-7/8" hex . Tilt -on - 1-17/32" deep	41
	F	2	8140761	ratchet-adapter 3/4" sp male drive , 3/4" sp female	42
	F	2	8250085	chest 32-1/4" * 8-5/8" * 9- 1/2"	43
	F	2	8474808	power wrnch - air operated main bearing and crab nuts -all 567 , 645 and 710 engines	44
	F	2	8425972	torque multiplier - 24: 1 power ratio - main bearing stud nut	45
	F	2		torque multiplier - 38:1 power ratio - cylinder head crab nut	46
	F	2	9570164	torque wrench - 0-75 ft .lbs 3/4" sp . Male drive	47
	F	2		special extension - 3/4" sp . Female and 1/2" sp male 3" long	48
	F	2		air motor includes torque reaction pins	49
	F	2		air control kit - includes shut - off valve , pressure ragulator , pressure gauge and fitting	50
	F	2		Note : for illustrations of components , except the chest kit numbers 8474806,8437890,and 8408219	51
	F	2	9551713	set - manual torque multiplier-all 567,645 and 710 engines	52
	F	2		torque multiplier -18.5 to power ratio 3200 ft.lb cap includes 3-3/4" socket and reaction socket (9572172) also includes torque wrench - 30 to 250 ft.lb chest (not shown)	53
	F	2	8474806	power wrench -air operated - main bearing nuts 567C,567D,645 and 710 engines	54
	F	2	8425973	torque multiplier - 24: 1 power ratio - air motor (includes torque reaction pins) - air control kit - (includes pressure regulator pressure gauge , shut off valve , and fittings)	55
	F	2	8484542	anchor plate - support plate angle drive - 1:1 ratio -90 (includes 1/2" and 3/4" sp male adapters	56

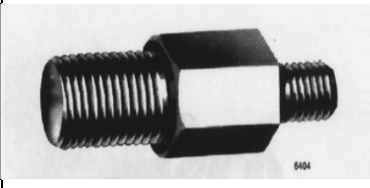
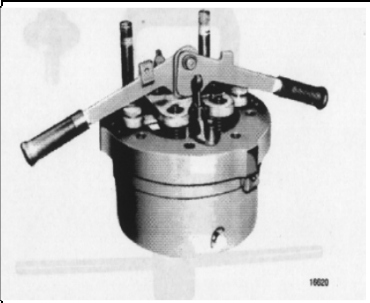
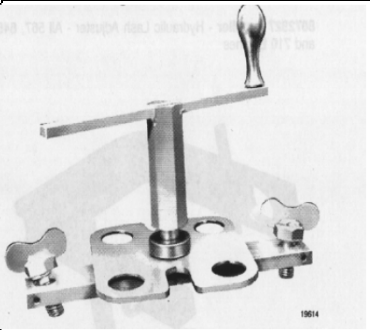
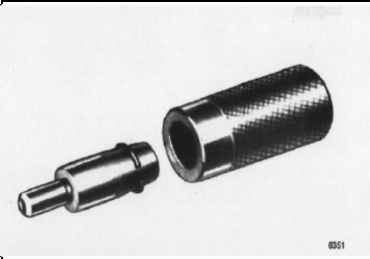
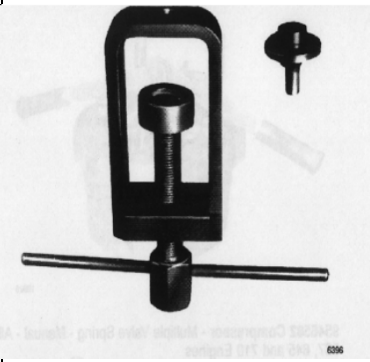
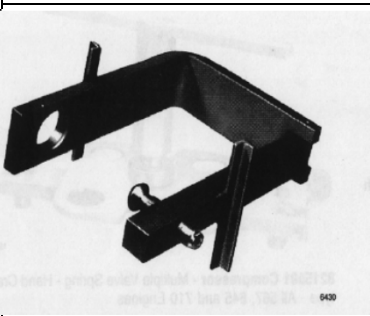
picture	F/L	QTY TOTAL	Part number	description	Item
	F	2	8474773	socket - short 1-7/8" hex tilt-on 1" deep	57
	F	2	8474774	socket - long 1-7/8" hex . Tilt -on - 1-17/32" deep	58
	F	2	8250085	chest 32-1/4" * 8-5/8" * 9- 1/2" (not shown)	59
	F	2	*8140761	ratchet-adapter 3/4" sp male drive - *torque wrench - 0-75 ft.lb . 3/4" sp mile drive (SWE51) special extension 3/4" sp female and 3/4" sp male 3" long - *these items are required only when manually verifying the air applied tourque Not: all compponents of this kit except the ches 8250085, are available in the kit number 8474808	60
	F	2	8093717	Extension handele - 36" - used with 8034085	61
	F	2	8034085	offset box wrench - 2-3/4" used on crab nuts	62
	F	2	40014456	Powre wrench - air operated - crab nuts -567 , 645 and 710 engines - torque multiplrier -38:1 power ratio	63
	F	2	9570166	air control kit - includes shut - off valve , pressure ragulator , pressure gauge and fitting - air motor - includes torque reaction pins	64
	F	2	40011705	anchor socket - 3" I.D	65
	F	2	82110960	socket - drive 2- 3/4" hex . sp . Male drive	66
	F	2	*8140761	adptter - ratchet 3/4" sp . Male drive * torque wrench -0-75 ft.lb .3/4" male drive (SWE51)	67
	F	2	8250085	chest - 36-1/4" * 8-5/8" * 9-1/2" (not shown) *these items are required only when manually checking the air applied torque. Note : all components of this kit except for the ches ,8250085 , are also contained in the kit number 8474808	68
	F	2	8437890	adapter kit -567,567A, and 567B engines Reaction cradle anchor plate assembly tow typical applictions shown 1- torque muliplier ,8425973, mounted in reaction cradle 2- adapter kit in use with components of 8474806, applying air power to the bearing cap nut Not: all components of this kit are also available in the kit number 8474808	69
	F	2	8034600	tube - crab stud thread protector (4 requird per cylinder	70
	F	2	8081034	fixture- crankcase water test upper deck jacet-A and B engines	71

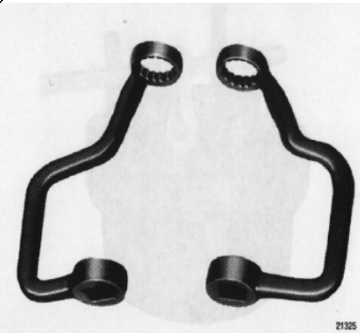

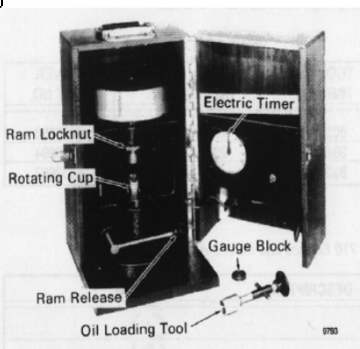
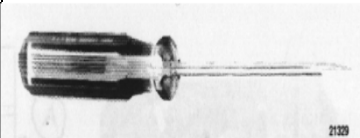
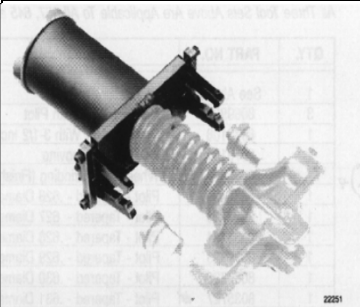
picture	F/L	QTY TOTAL	Part number	description	Item
	F	2	8190189	fixture- crankcase water test lower deck jacet-A and B engines	72
	F	2	8050688	tap-crap stud nut (tap clean up the 1-3/4" -12 threads of the nut)	73
	L	2	8249739	shackle - crankcase anchor includes pin - engine and generator lifting (1 per base	74
	L	2	9344365	Base - anchor shakle -645E(2 per crankcase- on root blown engines)	75
	L	2	9096428	Bolte - (4 required per base)	76
	L	2	9311575	Base - shakel anchor all turbochargerd engines whit "E" or "F" crankcase (this base not interfer with trap screen)use witht one 8344365 base	77
	L	2	9096320	Bolte - (4 required per base)	78
	L	2	8072352	Base crankcase anchor shackle - A,B,D engine (2 per crankcase)	79
	L	2	272580	Bolte - (4 required per base)	80
 <p>1. Air PSI Gauge 2. Oil PSI Gauge 3. Water PSI Gauge 4. Water/Air Box Pressure Gauge (Inches Of Water) 5. Crankcase Pressure Gauge 6. Air PSI Pressure Regulator 7. Oil PSI Regulator 8. Water PSI Pressure Regulator 9. Crankcase Pressure Regulator 10. Air PSI Valve 11. Oil PSI Valve 12. Water PSI Valve 13. Water Gauge Valve 14. Crankcase Valve 15. Air Box Gauge Valve 16. Pump Inlet Connection 17. Oil Hose Connection 18. Air Hose Connection 19. Water High Pressure Connection 20. Pump Inlet Gauge 21. Pump Inlet Regulator 22. Pump Inlet Valve 23. Vent Elbow (Not Shown - Located On Rear Of Panel) 24. Port No. 1 - (Pump Discharge Pressure) 25. Port No. 2 - (Pump Inlet Pressure) 26. Port No. 3 - (Air Box Pressure) 27. Port No. 4 - (Oil)</p>	F	1	9339066	panel - engine test for use with 710 engines - air -operated	81
	F	1	40014689	Wrench - crab nut -115 volt	82
	F	1	40014690	wrench - crab nut - 230 volt hydraulic - all engines	83
	F	1	40020518	Swith - limit	84
	F	1	9532633	jack - hydraulic-barring - 115 volt , all engines	85

picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	40014730	jack - hydraulic-barring - 230 volt , all engines	86
	F	1	9523800	Wrench - main bearing - 115 volt	87
	F	1	40009879	Wrench - main bearing - 230 volt	88
	F	1	8467738	measuring bar - used for line bore (refer to M.I 100)	89
	F	1	84677737	gauge assembly	90


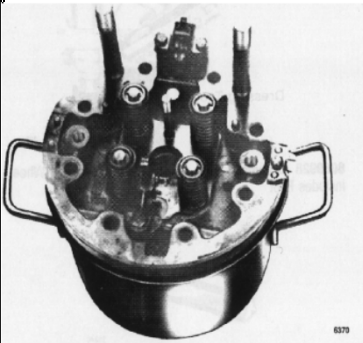
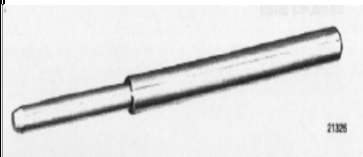
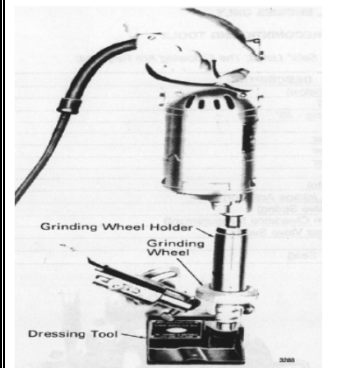
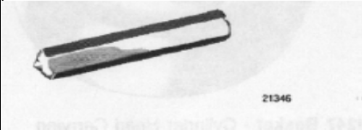
picture	F/L	QTY TOTAL	Part number	description	Item
ENGINE (POWRE ASSEMBLY)					91
	F	2	8417858	Lifter - power assembly (eccentric type) C,D,E ,F and G engine	92
	F	1	8075894	Remover and instalier - cylinder head - all engines	93
	F	1	8158650	lifter - power assembly - 567A,567B and 710 engine 131017 washer - flat 3/4" nom (2 required) 8187659 screw - pulling (2 required) 9414485 ring - pulling pulling (2 required) 8211959 foot swivel (pulling (2 required) 8160626 stop - piston (1 required) 8160627 Bolt - piston stop (2 required) 8035623 Eye - bolt - standard (1 required) 8209576 screw - jack (2 required) bar - pulling (1 required) 220086 nut - heavy hex (2 required)	94
	F	1	8213425	Hoist set - cylinder head and liner - all engines 8206099 Hoist - cylinder head and liner 8213424 Puller - cylinder liner 8213423 Adapter- used under the hoist - 567C,567D and 710 engines 8288228 adapter pair - used on Gp and SD locomotive with dynamic braking - all engines	95

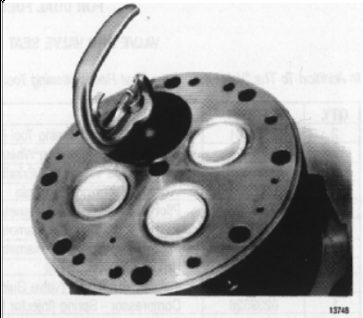
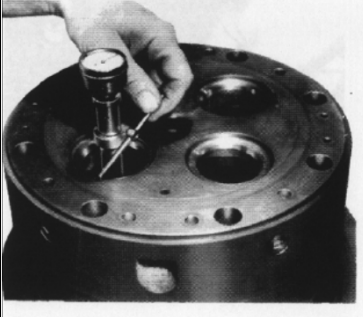
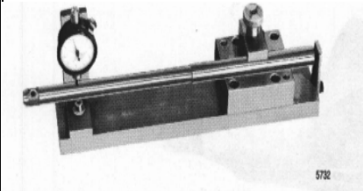
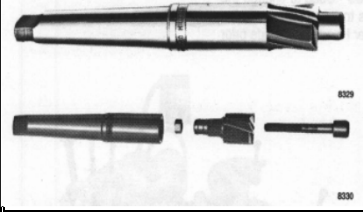
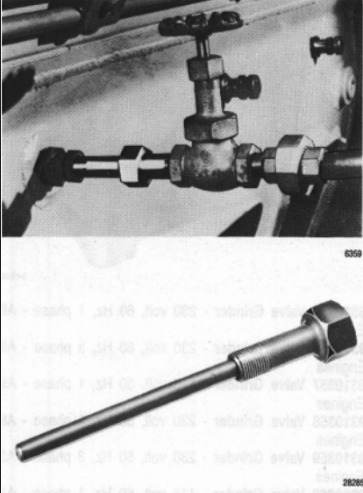
picture	F/L	QTY TOTAL	Part number	description	Item
	F	2	8197044	Lifter - power assembly (eccentric type) -567A and 567B engines 131017 Washer - flat 3/4" nom (2 required) 8187659 Screw - pulling (2 required) 8250704 pin- lifting (1 required) 9414485 Ring - pulling screw (2 required) 8250706 arm - lifting (1 required) 8250707 screw - thumb (1 required) 100737 screw _ machin - R.H. 6-32 * 7/8" long (2 requierd) 8211959 foot - swivel (2 required) 8160626 stop - piston (2 required) 8160627 bolte - piston stop (2 required) 8313614 ring - jack screw (2 required) 8209576 screw - jack (2 required) 8250821 bar - pulling (1 required) 8208127 chain - machin screw to lifting arm (as required)	96
	F	2	40034179	borgscope - fiber optic internal inspection of power assembly components through the injector hole	97
	F	4	8417859	tool- piston holding - power assembly lifting - all engines	98
	F	1	9080908	locator - crab bolt - 645 engines (used to center crab bolts)	99
	F	2	8417881	calamp - connecting rod positioning - assembly removal - 645 engines	100
	F	2	9572281	compression tester - set of eight and wooden case - used to measure compression in EMD power assembly when the engine is shut down 9572282 individual tester	101
ENGINE (CYLINDER HEAD)					102
	F	2	8033783	Compreeor - single valve spring (use with 8034054 adapter) - all 567 - 645 - and 710 engines	103



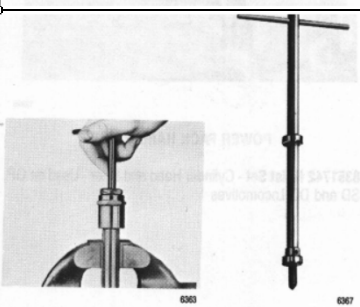
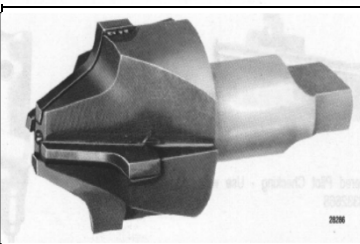

picture	F/L	QTY TOTAL	Part number	description	Item
 A black metal adapter with threaded ends on both sides and a central hexagonal body. Part number 6404 is visible at the bottom right.	F	2	8034054	adapter - valve spring compressor (use with 8033783 compressor) all 567,645 and 710 engines	104
 A manual multiple valve spring compressor with a central body and several adjustable arms. Part number 18029 is visible at the bottom right.	F	2	9546582	compressor - multiple valve spring - manual - all 567,645 and 710 engines	105
 A hand crank type multiple valve spring compressor with a central body and a hand crank handle. Part number 19014 is visible at the bottom right.	F	2	8215081	compressor - multiple valve spring - hand crank type - all 567, 645 and 710 engines	106
 A guide for installing a valve bridge snap ring, consisting of a long cylindrical body and a smaller cylindrical component. Part number 0051 is visible at the bottom right.	F	2	8070903	guide - valve bridge snap ring installing - all 567,645, and 710 engines	107
 A hydraulic lash adjuster with a central body and a hand crank handle. Part number 0396 is visible at the bottom right.	F	2	8072927	intaller - hydraulic lash adjuster - all 567,645 and 710 engines	108
 A valve bridge compressor with a central body and several adjustable arms. Part number 0430 is visible at the bottom right.	F	2	8070883	compressor - valve bridge - all 567,645 and 710 engines	109



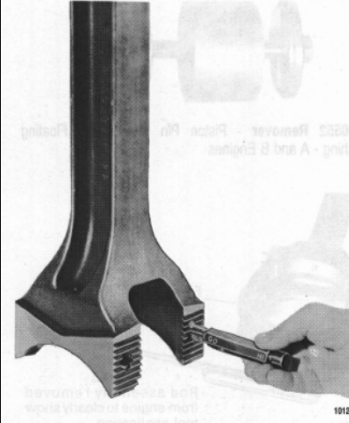
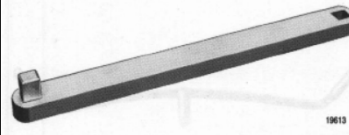

picture	F/L	QTY TOTAL	Part number	description	Item
	F	2	9082392	wrench - triple hex . Right hand 1-1/16" liner nuts (used without removing rocker arm assembly) all engines 9082393 wrench - triple hex left hand 1-1/16" liner nuts (used without removing rocker arm assembly) all engines	110
	F	2	8032587	wrench - cylinder test valve	111
	F	1	8267432	Test stand - lash adjuster 110 volts 60Hz - all 567,645 and 710 engines 8267434 gauge block 8267435 tool - oil loding 8276834 shaft - weight 8276835 cup 8276836 motor - 110 volts 60 Hz 8276837 ball bushing 8276838 micro - swtich 8276839 timer - leak down 8276840 nose assembly - large nose assembly - small	112
	F	1	8299249	test stand - lash 220 volts 60Hz -all 567, 645 and 710engines 8267434 gauge block 8267435 tool - oil loading 8276834 shaft - weight 8276835 cup 8276836 motor - 220 volts 60 Hz 8276837 ball bushing 8276838 micro - swtich 8276839 timer - leak down 8276840 nose assembly - large nose assembly - small	113
	F	1	8309795	test stand - 240 volts 50Hz	114
	F	1	8276528	oil - lash adjuster test stand - five gallons quantity	115
	L	1	8080632	remover - hydraulic lash adjuster snap ring - all 567,645 and 710 engine	116
	F	2	8394719	puller multiple hydraulic lash adjaster - all engines 8395481 arms lash adgaster puller (4 required per puller) 40026007 kit (1) spring (2) arm	117

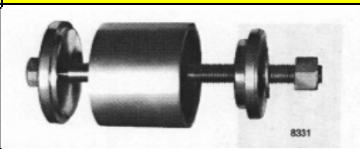
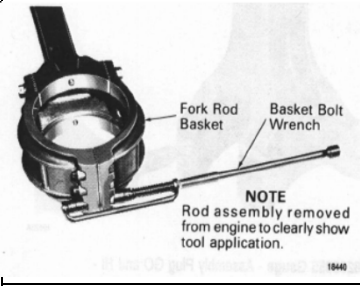
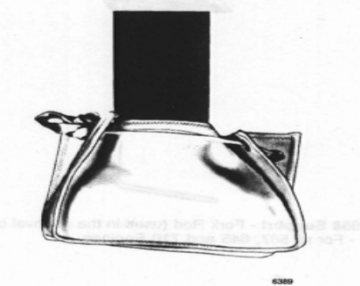
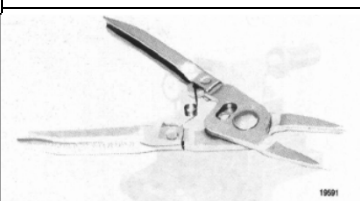

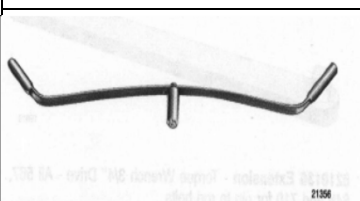
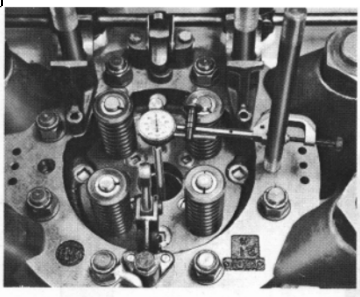
picture	F/L	QTY TOTAL	Part number	description	Item															
	F	2	8042773	tram - valve height checking (used with a feeler gauge such as 8067337	118															
<table><tr><th colspan="3">VALVE SEAT GRINDERS</th></tr><tr><th>TOOL SET PART NO.</th><th>DRIVER TYPE</th><th>DRIVER PART NO.</th></tr><tr><td>8035775</td><td>115 V. Motor</td><td>8200893</td></tr><tr><td>8041445</td><td>230 V. Motor</td><td>8200894</td></tr><tr><td>8332668</td><td>Air Motor</td><td>8332667</td></tr></table>	VALVE SEAT GRINDERS			TOOL SET PART NO.	DRIVER TYPE	DRIVER PART NO.	8035775	115 V. Motor	8200893	8041445	230 V. Motor	8200894	8332668	Air Motor	8332667	F	1		valve seat grinders	119
VALVE SEAT GRINDERS																				
TOOL SET PART NO.	DRIVER TYPE	DRIVER PART NO.																		
8035775	115 V. Motor	8200893																		
8041445	230 V. Motor	8200894																		
8332668	Air Motor	8332667																		
all three tool sets above are applicable to all 567,645 and 710 engines and include all the following items					120															
	F	2	See adove	driver	121															
	F	4	8069928	dressing tool with pilot	122															
	F	2	8073108	dial indicator with 3-1/2" contact finger	123															
	F	2	8073150	pin pilot removing	124															
	F	2	8035430	wheel -30 grinding (finishing) 3 hole	125															
	F	2	8035433	pilot - tapered- .626 diameter	126															
	F	2	8035723	pilot - tapered- .627 diameter	127															
	F	2	8035724	pilot - tapered- .628 diameter	128															
	F	2	8035725	pilot - tapered- .629 diameter	129															
	F	2	8035726	pilot - tapered- .630 diameter	130															
	F	2	8035727	pilot - tapered- .631 diameter	131															
	F	4	8200892	holder - grinding wheel	132															
	F	2	9318275	box metal (for tools)	133															
	F	2	3263558	spring - lifting (free length 5/12)	134															
	F	2	9095490	wheel -45 grinding (for 65)	135															
	F	2	9095491	wheel -30 grinding (for 20)	136															
valve grindes					137															
	F	1	9310355	grinder - valve and tool 230 volts 60 Cycle single phase	138															
	F	1	9310356	grinder - valve and tool 230 volts 60 Cycle three phase	139															
	F	1	9310357	grinder - valve and tool 115 volts 50 Cycle single phase	140															
	F	1	9310358	grinder - valve and tool 230 volts 50 Cycle single phase	141															
	F	1	9310359	grinder - valve and tool 230 volts 50 Cycle three phase	142															
	F	1	9310360	grinder - valve and tool 115 volts 60 Cycle single phase	143															
STONES-VALVE SEAT GRINDING					144															
	F	1	9095490	45 - 2-5/8" diameter - grinding 65 relief angle on exhaust port side of valve seat	145															
	F	1	9095582	30 - 2-7/8" diameter - grinding 20 relief angle on combustion chamber side of valve seat on heads ,made prior to january 1,1955	146															
	F	1	9095491	31 - 2-5/8" diameter - grinding 20 relief angle on combustion chamber side of valve seat on heads ,made prior to january 1,1955	147															
STONES-VALVE GRINDING					148															
	F	1	9310381	valve stem end grinding wheel	149															
	F	1	9310382	valve face grinding wheel with hub	150															
	F	1	9310380	drive belt for valve grinders	151															
FOR DUL FULE ENGINES ONLY VALVE AND VALVE SEAT RECONDITIONING TOOLS IN ADDITION TO THE VALVE AND SEAT RECONDITIONING TOOL SETS LISTED THE FOLLOWING ARE REQUIRED					152															
	F	3	8219491	Pilot (use with dressing tool below)	153															
	F	3	8069928	dressing tool - griding wheel	154															
	F	2	8219492	wheel - gas valve seat grinding - 45	155															
	F	2	9095581	wheel - roughing 15 angle	156															
	F	2	8219493	pilot - tapered - .4365 diameter	157															
	F	2	8219494	pilot - tapered - .4375 diameter	158															

picture	F/L	QTY TOTAL	Part number	description	Item
	F	2	8219495	pilot - tapered - .4385 diameter	159
	F	3	8052976	holder - grinding wheel	160
	F	2	8227624	installer - remover (valve guide)	161
	F	2	8239526	compressor - spring (injector linkage actuator)	162
	F	2	8238658	compressor (gas exhaust valve spring)	163
	F	2	8245511	wir - lead (for head to piston cleanace measurment)	164
	F	2	8220965	collet - gas valve (refacng gas valve seat)	165
	F	2	8259734	jack - injector linkag setting	166
	F	2	8260462	cup - suction (gas valve seat seal)	167
	F	1	8107788	gauge - lash adjuster minimum clearance -567,645 and 710 engines	168
	F	1	8227624	installer / remover valve guide - dual fuel	169
	F	1	8060247	basket - cylinder head carrying	170
	F	1	8224241	installer / remover - cylinder head exhaust valve guide - all engines	171
	F	1	8069928	dressing tool - valve seat grinding wheel includes pilot	172
	F	1	8214743	diamond - hex 3/8" carat (for later model dressing tool 8069928) (not included in kit) for fermale threaded shaft	173

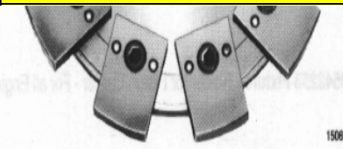


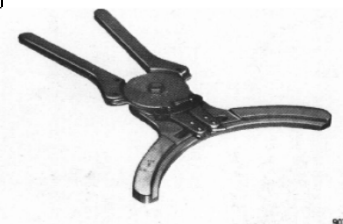

picture	F/L	QTY TOTAL	Part number	description	Item
	F	2	8213518	tester - valve seal 8213519 vacuum cup - valve seat tester (shown on tool)	174
	F	1	8260462	cup - suction gas valve seat dual fuel	175
	F	2	8073108	indictor - dial valve seat cheking , used with valve reconditioning tapered pilots	176
	F	2	8173996	fixture tapered pilot cheking - use with 8035775 , 8041445 and 8332668 8200947 indicator - dial	177
	F	2	8190311	counterbore - cylinder head nut seat 8228215 cutter cylinder head counterbore	178
	F	1	8070872	adapter - cylinder test valve - pressure test	179

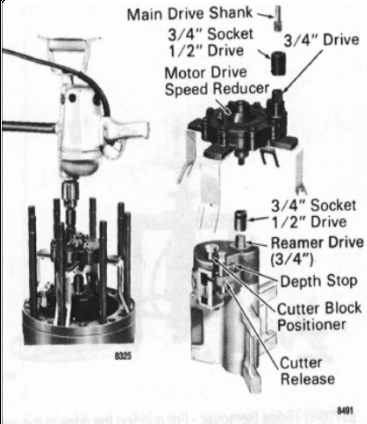

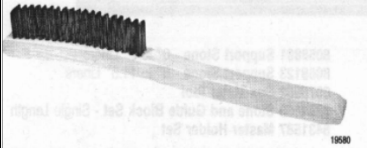
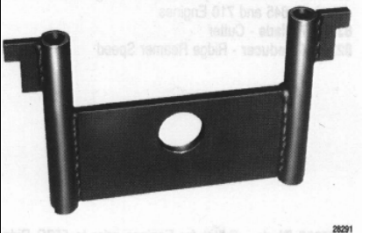
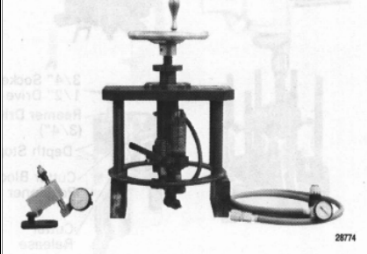
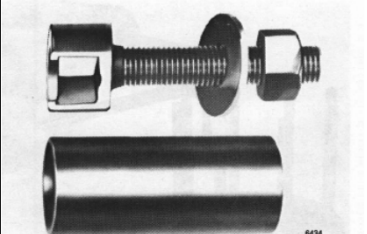
picture	F/L	QTY TOTAL	Part number	description	Item
	L	5	8211907	brush cleaner - cylinder head liner stud hole fits 1/4" drill chuck	180
	F	1	8141439	cleaner - cylinder head valve guide - fit 1/4" drill chuck	181
	F	1	8064804	reamer- cylinder test valve seat 8080383 cutter	182
	F	1	9560927	cutter injector well radius - use to chenge the 3/16" injector well to fireface radius to the 5/16" dimension used on current production cylander heads (all heads prior to june 1982)	183
	F	1	8351742	power pack hand hoist hoist set - cylinder head and liner - used on GP,SD and DD locomotives	184

picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	9310355	valve grinder - 230 volt , 60Hz, 1 phase all engines	185
	F	1	9310356	valve grinder - 230 volt , 60Hz, 3 phase all engines	186
	F	1	9310357	valve grinder - 115 volt , 50Hz, 1 phase all engines	187
	F	1	9310358	valve grinder - 230 volt , 50Hz, 1 phase all engines	188
	F	1	9310359	valve grinder - 230 volt , 50Hz, 3 phase all engines	189
	F	1	9310360	valve grinder - 115 volt , 60Hz, 1 phase all engines	190
	F	2	8257730	fixture - connecting rod chaking gauge 9533794 dial indicator 8257737 gauge lpate 8257738 gauge plate 8257739 spacer plate	191
	F	2	9548502	master rod gauge - (used to check rod checking fixture (8257730) for accuracy)	192
	F	2	40038305	fixture - similar to 8257730 with electronic digital readouts	193
	F	2	8265955	gauge assembly plug Go and HI-fork rod - tapped holes 942440 gauge - Go 5/8" - 18 unf 8265956 gauge HI 5/8" - 18 unf 776908 handel - gauge	194
	F	2	8210136	extension - torque wrench 3/4" drive - all 567,645 and 710 for pin to rod bolts	195
	F	1	8052958	support - fork rod (used in the removal of blade rod) - for all 567,645and 710 engines	196

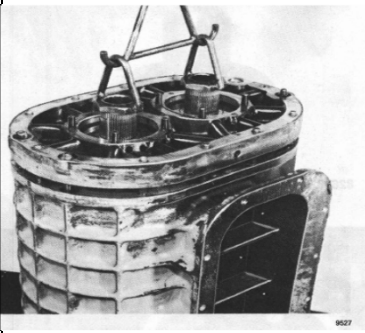
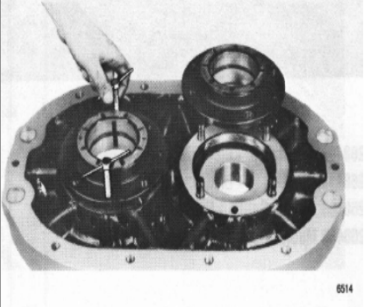
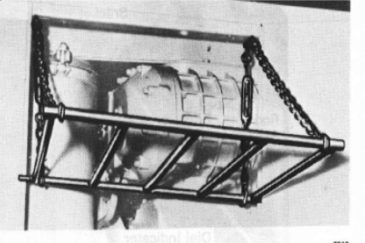
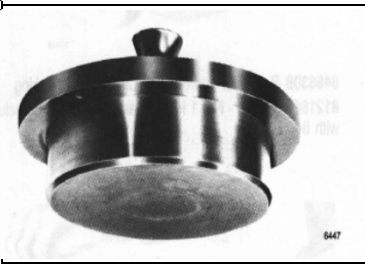
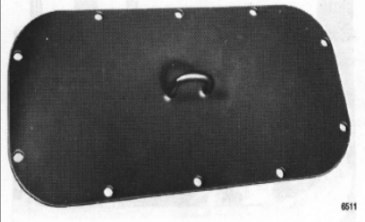
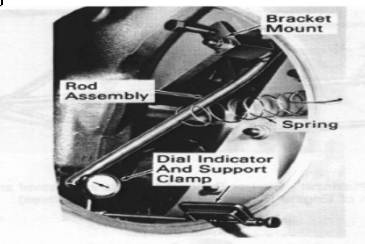
picture	F/L	QTY TOTAL	Part number	description	Item
 8331	F	2	8220552	remover piston pin sleeve and floating bushing - A and B engines	197
 18440 NOTE Rod assembly removed from engine to clearly show tool application.	F	2	8236718	wrench - basket bolt and nut - all 576,645 and 710 engines	198
 6389	F	2	8062033	boot -blade rod protector - for all 567 , 645 and 710 engines	199
	F	2	8062034	boot -fork rod protector - for all 567 , 645 and 710 engines	200
 19991	L	1	8237117	pliere-sleeve snap ring piston pin bearing -A and B engines	201
 19020	F	2	8243661	wire - lead 1/8" diameter for head to piston compressor readings - 5 lb . Spool (use with 8243220 holder)	202
	F	2	8245511	wire - lead 3/16" diameter for head to piston compressor readings - 5 lb . Spool (for 567 CDF engines)	203
 21594	F	1	8243220	holder - lead - piston to head compression readings - for all 567, 645 and 710 engines (for 8243661 wire only)	204
 18062	F	2	8051833	rod - top dead center checking , 567,645 and 710 engines	205

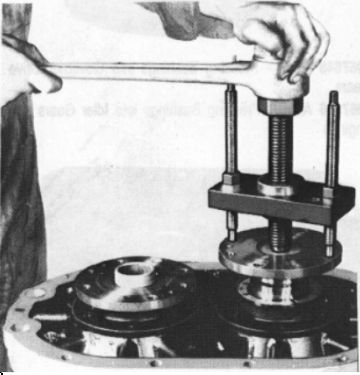

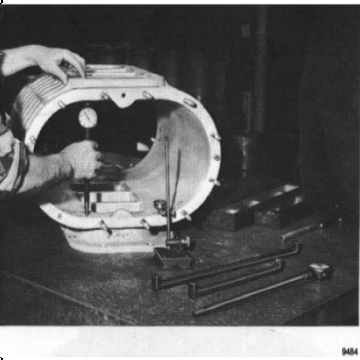
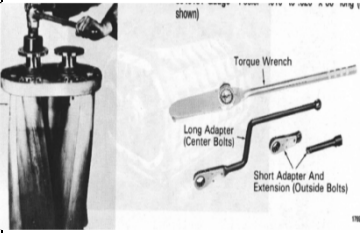
picture	F/L	QTY TOTAL	Part number	description	Item
	L	2	8040413	bolt- eye - piston puling , 1-1/2" long	206
	L	2	8071625	bolt- eye - piston puling , 18" long	207
	F	2	8171633	remover - piston carrier retainer snap ring	208
	F	1	8071720	gauge - piston cooling oil pipe	209
	F	1	9566330	tap - special -1/4-20-SL-(used for retapping piston pin carrier 8442120 with serial subsequent to 82-J0800 - refer to pointers article 6-L-84,4-M-84,4-P-84,4-DR-84	210
	F	2	8311268	indenter - insert to carrier - C,D and E engines only	211
	F	1	9534635	fixture holder for piston carrer - for all engines	212
	F	2	8275503	gauge - piston ring groove .194" - .203" (3/16" standard) D,E,F and G engines	213
			8331113	gauge - piston ring groove .210" - .219" (1/16" oversized) D,E,F and G engines	214
			8331043	gauge - piston ring groove .215" - .234" (1/32" oversized) D,E,F and G engines	215
			8225256	gauge - piston ring groove .251" - .260" A,B and C engines	216

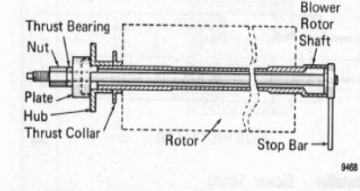
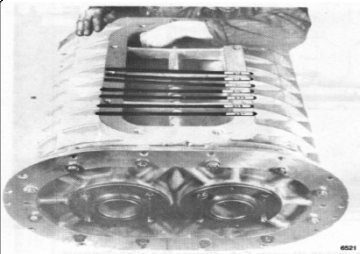
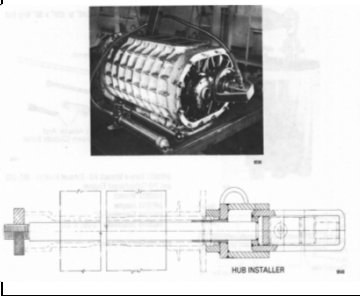
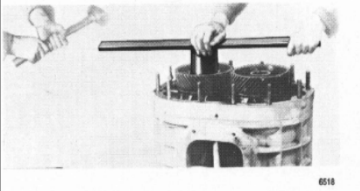
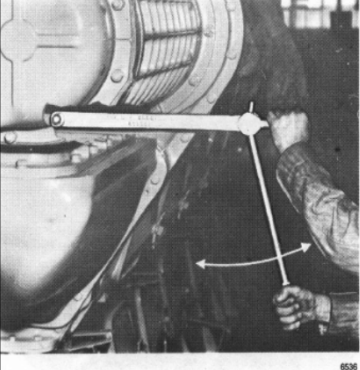


picture	F/L	QTY TOTAL	Part number	description	Item
			8225257	gauge - piston ring groove .282" - 291" (1/32" oversized) A,B and C engines	217
			8275378	gauge - piston ring groove .266" - 275" (1/64" oversized WITH TOP GROOVE) A,B and C engines	218
	L	2	8275489	Brush ,wire piston groove carbon removal	219
	F	2	9333846	guide - piston ring compressor - standard 645 and 710 engine (also available for oversize requirement)	220
	F	2	8034087	guide - piston ring compressor - standard diameter 567 engine	221
	F	2	8194036	expander - piston ring 567 engine	222
			8349892	expander - piston ring 645 and 710 engine	223
	F	2	40036373	spring return	224
	F	1	8491575	hone set - complete -567 and 645 engines excluding hub liners 8431586 body hone 8431588 shank long drive 8491576 stone and guide block set 8343116 master holder set - double length 8058891 support stone -6" to 9" liner 8068123 support stone -8" to 11.5" liner 8078882 box metal tool 8084163 stone and guide block set - single length 8431587 master holder set	225

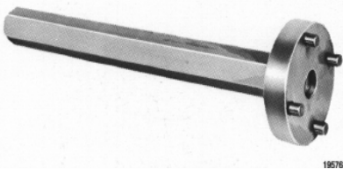

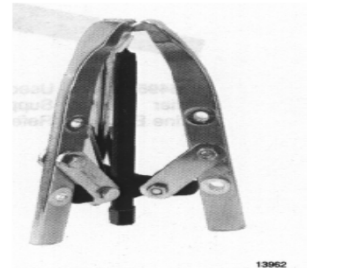
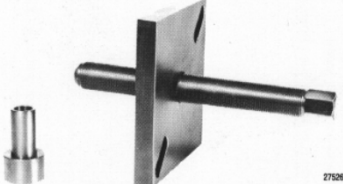
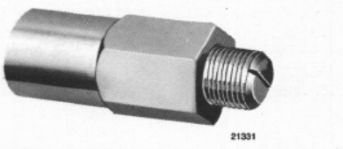
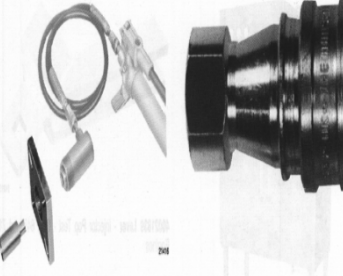
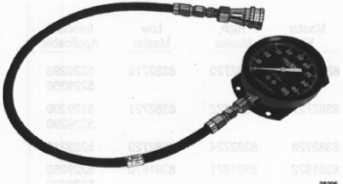
picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	8228303	reamer- cylinder liner ridge standard size 567 engines 8228305 blade - cutter replacement 8374969 reamer - cylinder liner ridge standard and oversize 645 and 710 engine 8379037 blade cutter 8228304 reducer - ridge reamer speed	226
	F	2	8157327	blade - cutter for engines prior to 567c ridge reamer (8157279)	227
	F	2	8275258	gauge - cylinder liner bore dial	228
	F	2	8278540	gauge - master calibration of 8275258 for 567 engines-variable tolerance 8.4996" to 8.5006" diameter	229
	F	2	8278541	locator - liner bore dial gauge	230
	F	2	837470	gauge - master calibration of 8275258 for 645 engines tolerance 9-1/16" diameter	231
	F	2	9321276	gauge - master 8.2500" for checking main bearing steel bore (used with 8275258)	232
	F	2	40038306	gauge - master ,main bearing steel bore for 710 engine (similar to 9321276)	233
	L	2	8078883	brush wire -for cleaning honing stones	234
	F	2	8425724	grease - silicone - 5.3 oz , tube for application of engine seals and O ring	235
	F	1	8116358	lifter cylinder liner - all engines	236
	F	2	9570042	ringe remover - for grinding the ridge at the end of the ring travel on liners that cannot be reamed	237
	F	2	8068028	puller - flywheel bolt - for 3 piece flywheel - 567 engines	238

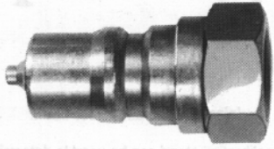
picture	F/L	QTY TOTAL	Part number	description	Item
 A black and white photograph showing a harmonic balancer puller assembly. It includes a long central rod, a shorter rod, and several small screws and washers. The number 8738 is visible in the bottom right corner.	F	2	8225989	puller harmonic balancer- complete 8225992 screw - shoulder 3/8"-24 8225991 screw - shoulder 5/16"-24 8225990 screw - shoulder 1/4"-24	239
	F	1	8220496	puller - harmonic balancer (3 required)	240
 A black and white photograph of a lower liner seal ring, which is a thick, circular metal ring. The number 298252 is visible in the bottom right corner.	F	1	8164914	gulde - lower liner seal ring -A and B engines	241
	F	1	8176923	gulde -upper liner seal ring -A and B engines	242
 A black and white photograph showing a person's hands using a gauge to measure the deflection of a harmonic balancer spring pack. The number 8444 is visible in the bottom right corner.	F	2	8080197	gauge - harmonic balancer spring pack deflection	243
 A black and white photograph of a heavy-duty anvil, which is a circular metal piece with a flange. The number 8445 is visible in the bottom right corner.	F	1	8067644	anvil - pressing bushingsinto blower drive gears -12 cyl.567 engine	244
 A black and white photograph showing a stud or dowel puller tool. It consists of a long rod with a threaded end and a handle. The number 35164 is visible in the bottom right corner.	F	2	8488380	remover tool - stud or dowel puller with 9/16" collet	245
 A black and white photograph showing a person's hands using a puller and driver tool to work on liner studs. The number 15543 is visible in the bottom right corner.	F	2	8414879	puller and driver - liner studs	246
ENGINE (AIR INTAKE AND EXHAUST (G 12- G8)					247

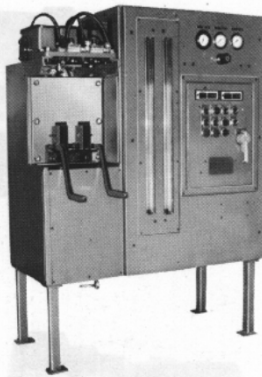
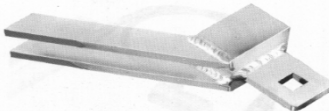

picture	F/L	QTY TOTAL	Part number	description	Item
 9527	F	1	8052915	fixture - blower rotor removal and installation	248
 8514	F	1	8070932	remover - blower and plate bearing (2 required)	249
 8510	F	1	8062873	platform - blower support (assists in removal and installation of engine blower for switcher locomotives)	250
 8447	F	1	8067645	anvil - pressing bushing into governor drive gears	251
	F	1	8067646	anvil - pressing bushing into governor drive gears 567 engine	252
 8511	L	2	8072929	Plate - blower lifting	253
 17843	F	1	8466308	bar - no 1 idler gear clearance checking	254
	F	1	8121868	spring - no 1 idler checking - not included with 8466308	255


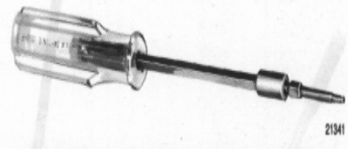
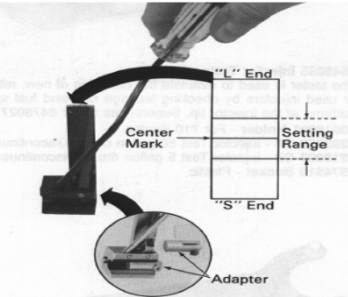

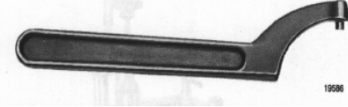

picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	8049057	puller - manual - blower hub- removal only	256
	F	1	8052916	press- manual - blower hub- installation only	257
	F	2	8268828	blower hub nut socket	258
	F	2	8268436	dial gauge- blower housing , horizontal	259
	F	2	8268437	dial gauge- blower housing , vertical	260
	F	2	8268483	master gauge - for 8268436	261
	F	2	8268439	master gauge - for 8268437	262
	F	2	8463511	torque wrench kit - exhaust manifold - 567 , 645 and 710 turbocharged engine	263
	F	2	8463512	wrench	264
	F	2	8463513	adppter	265
	F	2	8463514	extension - 5"	266
	F	2	8463515	torqometer -0-200 ft.lb	267
	F	2	8477369	box	268


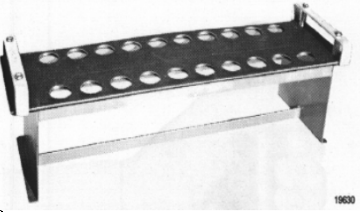
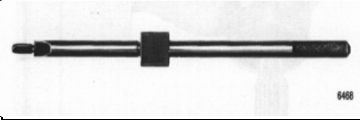
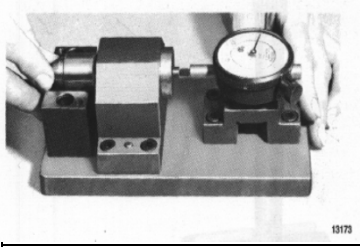
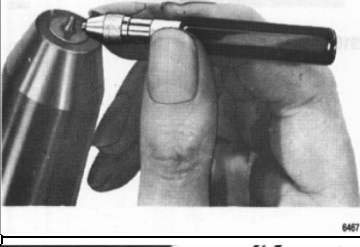

picture	F/L	QTY TOTAL	Part number	description	Item
 <p>8052916 Press - Manual - Blower Gear Hub - installation only</p>	F	1	8052916	press- manual - blower gear hub- installation only	269
	F	1	8049132	gauge - feeler - .008" to .020" * 12" long	270
	F	1	8049131	gauge - feeler - .010" to .020" * long	271
	F	1	8264362	hydraulic remover / installier - blower timing gear hub	272
	F	1	8070926	wrench- blower shaft locknut	273
	F	1	8177166	wrench set - blower nut miscellaneous	274
	F	2	9525495	driver - used in freeing dowels from turbocharger carrier bearing support during rotation conversion on marine engines	275
	F	2	8212484	box - socket - wrench , half moon 5/8" * 3/4" - water pump mounting nuts	276

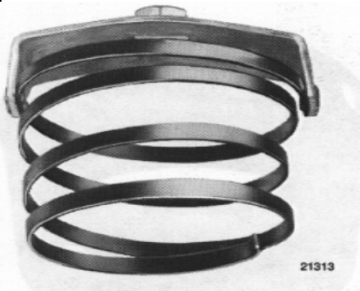
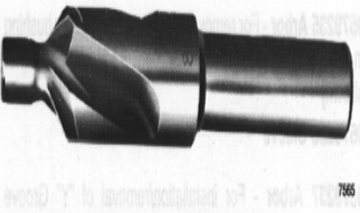

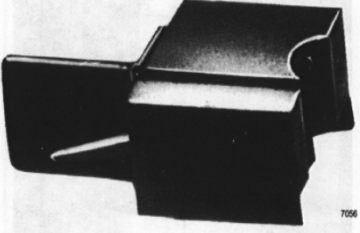

picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	8277270	Wrench-spanner ,lube oil filter reliter valve michina	277
	F	2	9519601	wrench - water pump mounting bolt new offset pump wrench fits all water pump mounting bolts. Pump changeout time can be cut nealy in half . The wrench fits around the housing making the inner two mounting bolts easily accessible ,also torquing of all mounting bolts is now possible	278
	F	1	8277271	wrench - socket , screwdriver , lube oil filter relief valve michiana	279
	F	1	8354367	puller - water pump impeller	280
	F	1	9549072	disassembly tool - water pump 9549073 plate 9549074 screw- spcial 9549075 adapter	281
	F	1	8052959	installer - water pump impller (used to assembly the impeller to the drive shaft housing) all 567,645 and 710 engine	282
	F	2	9312771	Seel plate 3/4"	283
	F	2	9312770	adapter (used with 8263531) - jack hydraulic for removing water pump nimpeller housing)	284
	F	1	9325061	kit -lube oil filter tank pressure test	285
	F	1	8032123	gauge -0-100 psi	286
	F	1	8471010	hose assembly	287
	F	1	9321341	socket - quick disconnct	288
	F	1	8040325	connector	289
	F	1	116436	connector	290
	F	1		connected to the male quick disconnect provided on later model locomotive (9321340 - male quick disconnect - can be added to tanks not so equipped) this the provdes a conveninet means for moniting filter pressure drop to determine filter change out	291

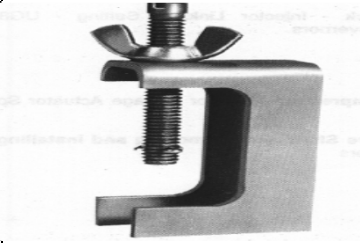
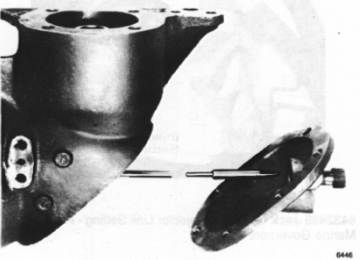



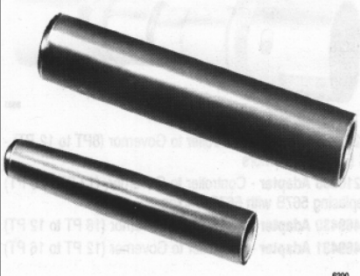
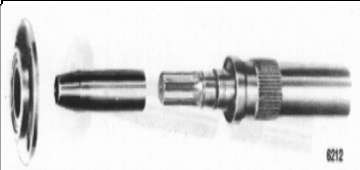
picture	F/L	QTY TOTAL	Part number	description	Item
 <small>26296</small>	F	1	9321340	male quick disconnect 1/4 FPT	292
	F	1	9321341	female quick disconnect 1/4 FPT	293

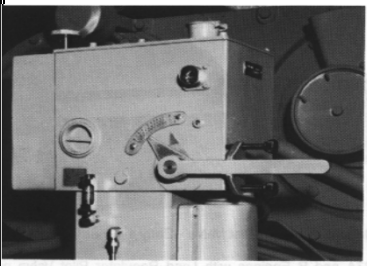
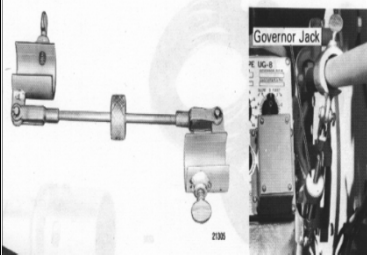

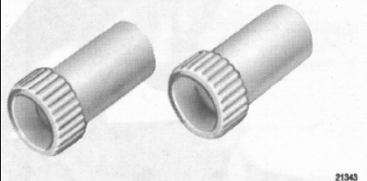

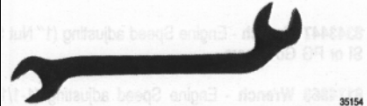
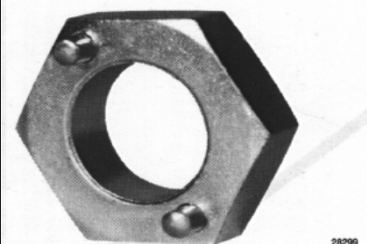
picture	F/L	QTY TOTAL	Part number	description	Item																																				
 Injector Calibration Test Stand 27923	F	1	8332467	<p>injector calibration test stand</p> <p>the EMD calibration stand can be used to determine injector fule outpute so that each injector can be adjusted for rated fule delivery yhis will ensure a balanced set of injectors for smooth and economical engine performance</p> <p>these test stands supersede test stand 83324467</p> <table><tr><th rowspan="2">Test Stand Part No.</th><th colspan="3">Power Required</th></tr><tr><th>Voltage</th><th>Ø</th><th>Hz</th></tr><tr><td>9545110</td><td>220</td><td>3</td><td>60</td></tr><tr><td>9547232</td><td>230/240</td><td>1</td><td>50</td></tr><tr><td>9547515</td><td>380</td><td>1</td><td>50</td></tr><tr><td>9547516</td><td>440</td><td>3</td><td>60</td></tr><tr><td>9547517</td><td>440</td><td>3</td><td>50</td></tr><tr><td>9547518</td><td>220/440</td><td>3</td><td>50</td></tr></table>	Test Stand Part No.	Power Required			Voltage	Ø	Hz	9545110	220	3	60	9547232	230/240	1	50	9547515	380	1	50	9547516	440	3	60	9547517	440	3	50	9547518	220/440	3	50	294					
Test Stand Part No.	Power Required																																								
	Voltage	Ø	Hz																																						
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9547516	440	3	60																																						
9547517	440	3	50																																						
9547518	220/440	3	50																																						
 21012	F	1	40021839	lever - injectore pop test 567,645 and 710 engines	296																																				
	F	1		<p>Master Injectors</p> <p>Master injectors are available for use with injector test stands to establish acceptable output limits for fuel injectors.</p> <p>There is a master injector for the high and low limit of each range of injector outputs.</p> <table><tr><th>Master Kit</th><th>High Master</th><th>Low Master</th><th>Injectors Applicable</th></tr><tr><td>8382726</td><td>8382720</td><td>8382719</td><td>5229295 5229300</td></tr><tr><td>8382727</td><td>8382722</td><td>8382721</td><td>5229200 5229290</td></tr><tr><td>8382728</td><td>8382724</td><td>8382723</td><td>5229310</td></tr><tr><td>8381672</td><td>8391671</td><td>8391670</td><td>5229250 5229330</td></tr><tr><td>9318974</td><td>9318973</td><td>9318972</td><td>5229320 5229335</td></tr><tr><td>9532801</td><td>9532802</td><td>9532800</td><td>5226210</td></tr><tr><td>40002764</td><td>40002765</td><td>40002766</td><td>5226700</td></tr><tr><td>40034198</td><td>40034199</td><td>40034200</td><td>5227000 5227285</td></tr></table> <p>NOTE</p> <p>All above kits used with Injector Calibration Stand.</p> <p>— All kits consist of Storage Case containing Two Master Injectors, one set at High Limit and one at Low Limit of particular Injector Calibration Range.</p>	Master Kit	High Master	Low Master	Injectors Applicable	8382726	8382720	8382719	5229295 5229300	8382727	8382722	8382721	5229200 5229290	8382728	8382724	8382723	5229310	8381672	8391671	8391670	5229250 5229330	9318974	9318973	9318972	5229320 5229335	9532801	9532802	9532800	5226210	40002764	40002765	40002766	5226700	40034198	40034199	40034200	5227000 5227285	297
Master Kit	High Master	Low Master	Injectors Applicable																																						
8382726	8382720	8382719	5229295 5229300																																						
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9318974	9318973	9318972	5229320 5229335																																						
9532801	9532802	9532800	5226210																																						
40002764	40002765	40002766	5226700																																						
40034198	40034199	40034200	5227000 5227285																																						
 28207	F	1	9323395	gauge trip air flow (shown with spray tip installed) not use master tips listed below to show high and low limits	298																																				
	F	1	8418391	low master for 5-.134" - 160 and 6-.012" - 150 tips	299																																				
	F	1	8418392	high master for 5-.134" - 160 and 6-.012" - 150 tips	300																																				
	F	1	8418393	low master for 6-.134" - 160 and 7-.012" - 160 tips	301																																				
	F	1	8418394	high master for 6-.134" - 160 and 7-.012" - 160 tips	302																																				
	F	1	9099824	low master for 6-.015" - 160 and 7-.014" - 160 tips	303																																				
	F	1	9099825	high master for 6-.015" - 160 and 7-.014" - 160 tips	304																																				
	F	1	9532800	low master - all 645 E engines	305																																				
	F	1	9532802	high master - all 645 F engines	306																																				
	F	1	9546046	low master for 6-011" - 150 tip	307																																				
	F	1	9546047	high master for 6-011" - 150 tip	308																																				
	F	1	9564645	high master for 7-0152" - 150 tip	309																																				
	F	1	9564646	low master for 7-0152" - 150 tip	310																																				
	F	1	4002765	high master all 710 engine	311																																				
	F	1	4002766	low master all 710 engine	312																																				


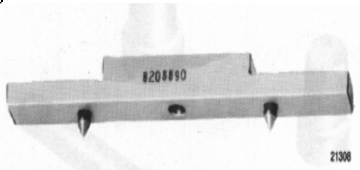


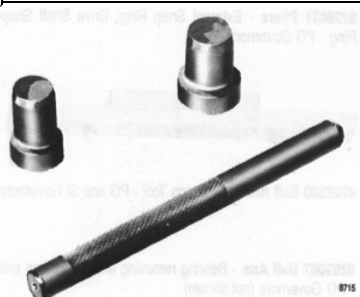
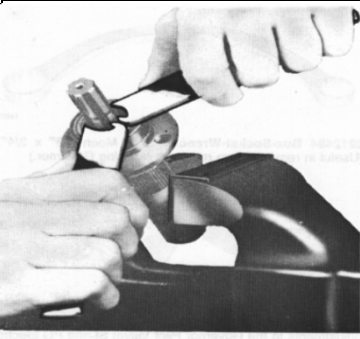
picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	9549055	injector tester the tester is used to evaluate the condition of new rebuilt or used injectors by checking leakage rate and fuel spray pattern at the injector tip supersedes tester 8478027 40018091 holder - for 710 engine 8203258 oil - injector test 50 gallon drum (discontinued) 8219007 oil - injector test 5 gallon drum (discontinued) 9574910 bucket - plastic	313
	F	1	8017824	wrench - fuel pump cap nut- passenger SW,G8,G12,G16 and other that have 8020257 fuel pump	314
	F	1	8107539	wrench- screwdriver - 1/8" hex - used to back out the set screw (4 turns only) to release the stop pin on the injector follower - all engines gauge applications 1- gauge without adapter used for 25.4 mm (1.00") rack setting 2- gauge without adapter used for 15.88 mm (5/8") rack setting	315
	F	1	8339610	gauge - rack setting indicating (standard 1" setting)	316
	F	1	8357591	adapter - .625", 5/8" setting	317
	F	1	8244900	block , gauge	318
	F	1	8380701	adapter - for 56/64"	319
	F	1	8380702	adapter - for 58/64"	320
	F	1	8159147	wrench - fuel pump packing nut GP,SD,DD,GT pin size 3/16"	321
	F	1	8017825	wrench - fuel pump plug (designed for removal of fuel pumps applied to passenger SW,G12,G16 fuel pump 8020257)	322
	F	1	8330339	optoscope - needle valve seat	323
	F	1	8330338	bulb light	324

picture	F/L	QTY TOTAL	Part number	description	Item
 13177	F	1	8276319	test fixture - needle valve injector (used for checking needle valve opening pressure) must be used with another test fixture such as 9549055	325
 19630	L	2	8431626	rack - 20 injector holding	326
 6488	F	2	8034638	gauge - injector timing	327
 13179	F	2	8360447	gauge and master - needle valve lifter Indicator	328
 6487	F	2	8069989	vise - pin - 0.0 " - 0.040" 8122519 wire - hardened steel 0.011" diameter * 500 ft long	329
 6482	F	2	8041183	bar - pry- injector removing	330

picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	9083713	wrench - spin - on fuel filter	331
	F	1	8214852	countersink - fuel oil manifold block	332
	L	1	8243516	oil can - forced feed - 7" long suput positioned	333
	F	1	8062916	gauge - pilot valve early SI governors 567 a and engine with load regulator pilot valve not incorporated in governor	334
	F	2	8227463	controller - engine speed 64, volt - SI or PG governors	335

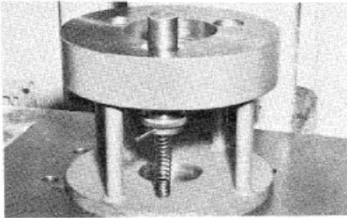
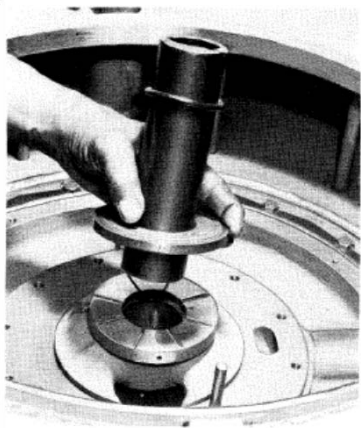
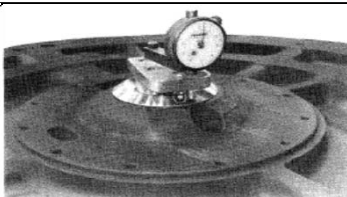
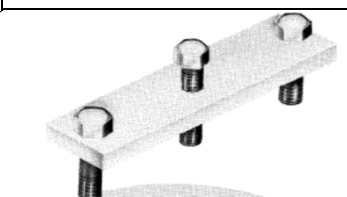

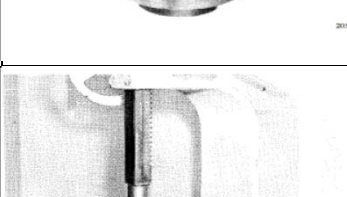

picture	F/L	QTY TOTAL	Part number	description	Item
	F	2	8330230	tail rod jack - SI,PG governors	338
	F	2	8062027	tool - tachometer drive oil seal - 567 engine and SI governor	339
	F	2	8210256	adapter - controller to governor (8 PT to 12 PT) - C engine governor	340
	F	2	8210938	adapter - controller to governor (12 PT to 8 PT) replacing 567B with 567C engine	341
	F	2	8469430	adapter - controller to governor (16 PT to 12 PT)	342
	F	2	8469431	adapter - controller to governor (12PT to 16 PT)	343
	F	2	8243093	inserter - oil seal - UG8 govenor industrial	344
	F	2	8432485	jack - governor injector link setting - PG rail and marine governore	345
	F	1	8061015	installer - governor drive shaft snap ring - SI governor	346
	F	2	8084868	guide - governor drive shaft oil seal - SI governors	347

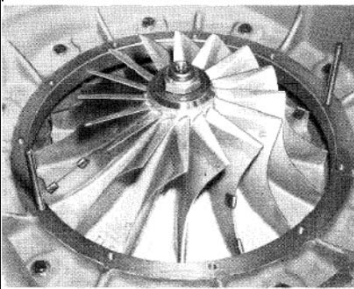
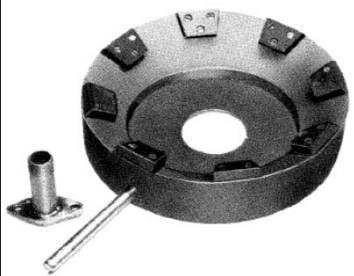
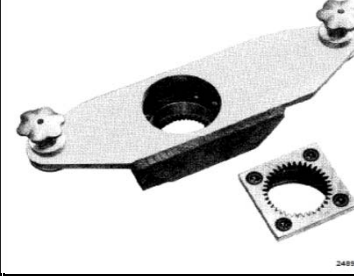
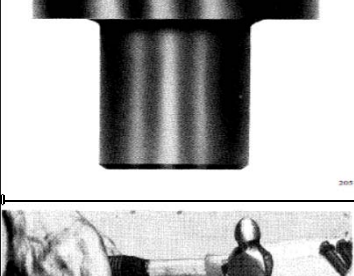
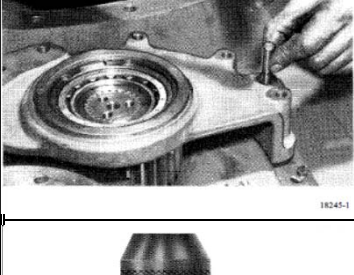
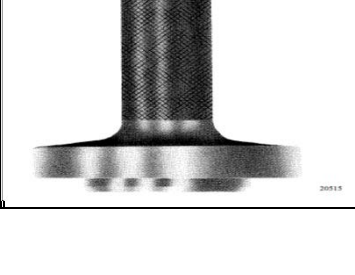

picture	F/L	QTY TOTAL	Part number	description	Item
 14682	F	2	8295586	jack - governor injector control linkage setting industrial engine with LSG , EGB governor and MP36 ,MP45 units with (PG HP) governors	348
 2738	F	2	8259734	jack - injector linkage setting - UG8 and marquette governors	349
	F	2	8239526	compressor- injector linkage actuator spring - dual fuel	350
	F	2	8208889	drive shaft seal removing and installing tool - PG governors	351
 19602	F	2	8212484	box - socket wrench - half moon 5/8" * 3/4" (useful in removing two rear retaining governor)	352
 21343	F	2	8113925	Jack nut seeder (used when making adjustments to the governor pilot valve) SI and PG elector hydraulic governors	353
 19725	F	2	8208398	wrench - shutdown nut adjust - SI and PG governors	354
	F	2	8237117	pliers - no 1 internal retaining ring - PG governors	355
	F	2	8237118	pliers - no 3 internal snap ring - PG governors	356
 35154	F	2	40034176	governor housing wrench 3/4" opening for use on housing bolts	357
 28299	F	1	9546319	wrench - F40PH locomotives only (skinner shutdown solenoid valve body) - this tool is required when removing and / or replacing the valve plunger and plunger spring	358

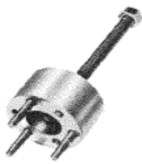
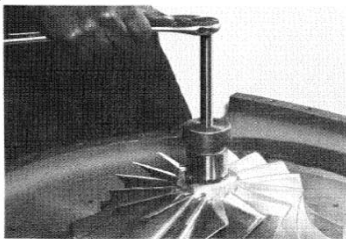
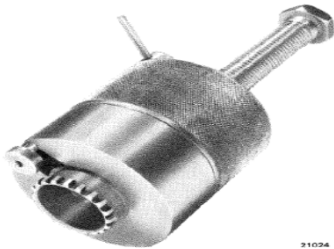


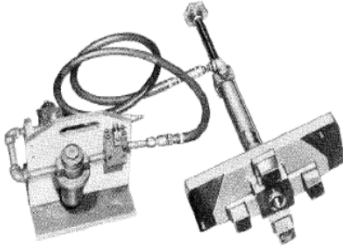
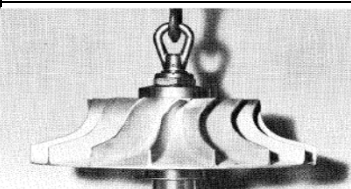
picture	F/L	QTY TOTAL	Part number	description	Item
	L	1	8228031	pliers - external snap ring , drive shaft snap ring - PG governors	359
	F	1	8208890	ball arm - centering tool - PG and SI governors	360
	F	1	8209807	ball arm - bearing removing and installation tool - PG governors	361
	F	2	8225660	remover - rotary oil seal - rotary shaft governors	362
	F	1	8225659	rod - rotary shaft oil seal driving - rotary shaft governors	363
	F	2	8225658	installer - remover - rotary shaft bearing - rotary shaft governors	364
	F	2	8055831	remover drive shaft snap ring - SI governor	365

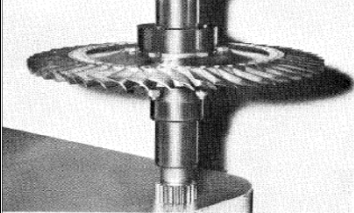
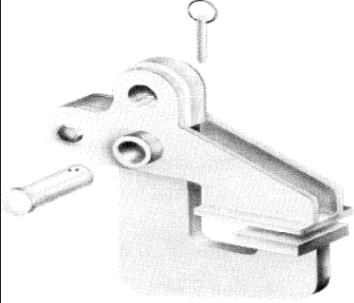


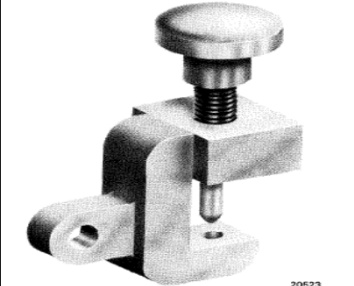
picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	8343447	wrench - engine speed adjusting (1" nut socket) SI or PG governors	366
	F	1	8174868	wrench - engine speed adjusting (1 - 1/16" nut socket) SI or PG governor	367
turbocharger					368
REBUILD CLASS 1					369
	F	2	1A-37166 (9570393)	<p>Eyebolt, Compressor</p> <p>Class 1 Rebuild Used on all turbos - 2 required.</p> <p>Used to apply the compressor rollover fixture IL- 3031 to the compressor bearing support.</p>	370
	F	2	1A-90951 (9548124)	<p>Retainer, Roller</p> <p>Class 1 Rebuild Used on all turbos with roller clutches - 1 required.</p> <p>Allows the removal of the spring clips, 2B-36695 (9549777), when assembling the roller clutch.</p>	371
	F	1	1A-91447 (9548103)	<p>Trunnion, Turbocharger</p> <p>Class 1 Rebuild Used on all turbos - required.</p> <p>Secures the turbo during assembly and disassembly and allows vertical and horizontal positioning of the turbocharger to facilitate installation and removal of critically aligned components</p>	372
	F	2	1A-91448 (9548125)	<p>Pliers, Snap Ring</p> <p>Class I Rebuild Used on all turbos - required.</p> <p>Used for easy and safe removal of snap rings from various components.</p>	373


picture	F/L	QTY TOTAL	Part number	description	Item
 12321	F	1	IA-92176 (9548100)	<p>Fixture, Carrier Shaft Installation</p> <p>Class I Rebuild Used on all turbos - I required.</p> <p>Positions the idler gear support for installation of the carrier shaft assembly. Can also be used to install the idler gear stubshaft on previous design T-type turbos.</p> <p>NOTE</p> <p>Ensure that the arbor is supporting the ball bearing inner race during installation of the carrier shaft assembly.</p>	374
 18279	F	1	IA-92177 (9548101)	<p>Stand, Gear Section</p> <p>Class I Rebuild - Used on all turbos - required.</p> <p>Provides a stable work station for assembly and disassembly of the gear drive section. The stand is constructed to allow clearance for the planet gears when working on the carrier and idler gears.</p>	375
 18838-1	F	1	IA-93045 (9570394)	<p>Wrenches, Pipe Plug</p> <p>Class I Rebuild - Used on all turbos - I required.</p> <p>Used to remove various pipe plugs in the turbos. Consists of 1/2", 3/8", 5/16", and 3/16" standard Allen wrenches.</p>	376
 2005	F	1	9559514	<p>Mandrel, Expandable</p> <p>Class I Rebuild - Used on all turbos - 3 required</p> <p>G-51293 - Gauge, 610 mm (24") Height</p> <p>Class I Rebuild - Used on all turbos - required.</p> <p>Used in procedures to dimensionally qualify carrier shafts.</p>	377
 205 IL	F	1	IA-93148 (9570395)	<p>Set, Jackscrew</p> <p>Class 1 Rebuild - Used on all turbos - 6 required.</p> <p>Used to evenly separate assemblies to avoid damage to internal components. Each set consists of one 1/2"-13 and one 3/8"-16 screw with a brazed block.</p>	378
 188248-1	F	1	IA-93197 (9548126)	<p>Puller, Dowel</p> <p>Class 1 Rebuild Used on all turbos -1 required.</p> <p>Used to remove dowels with threaded ends.</p>	379

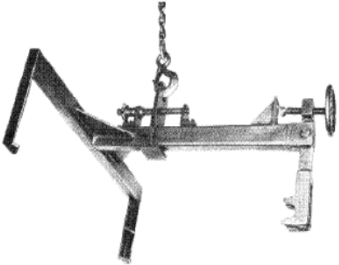


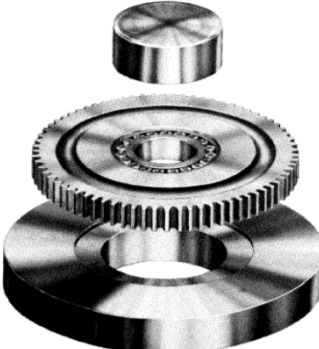
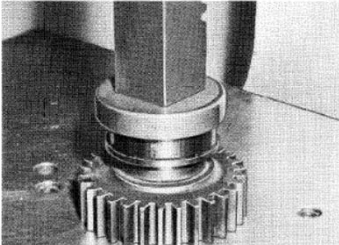
picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	IA-91900 (9548098)	<p>Fixture, Carrier Shaft Assembly</p> <p>Class 1 Rebuild Used on all turbos except high capacity - 1 required.</p> <p>2B-53094 (9550434) Fixture, Carrier Shaft Assembly</p> <p>Class 1 Rebuild Used on high capacity turbos - 1 required.</p> <p>Used with a press to remove and install planet gear shafts into the carrier shaft assembly.</p> <p>NOTE</p> <p>When pressing out the planet shafts, care should be exercised to ensure the thrust washers are centered.</p>	380
	F	1	IA-93406 (9549779)	<p>Sleeves, Shaft Protector</p> <p>Class I Rebuild Used on all turbos - 2 required.</p> <p>During assembly and disassembly, the protector sleeve IA-93406 (9549779) and stop ring 8082586 placed in the compressor section protect the turbine wheel shaft from damage due to contact with the compressor labyrinth seal. Also included is a split bushing protector that can be used to protect the labyrinth seal in the turbine inlet scroll support.</p>	381
	F	1	8082586	<p>Stop Ring, Protector Sleeve</p> <p>Class 1 Rebuild Used on all turbos - 6 required.</p> <p>During assembly and disassembly, the protector sleeve IA-93406 (9549779) and stop ring 8082586 placed in the compressor section protect the turbine wheel shaft from damage due to contact with the compressor labyrinth seal. Also included is a split bushing protector that can be used to protect the labyrinth seal in the turbine inlet scroll support.</p>	382
	F	2	G-65825 (9560133)	<p>Gauge</p> <p>Class 1 Rebuild - 1 required.</p> <p>Used to check the installed height of the compressor journal bearing pin on turbos so equipped.</p>	383
	F	1	IA-9564I	<p>Fixture, Carrier Gear Bearing Removal</p> <p>Class 1 Rebuild - Used on all turbos - 1 required.</p> <p>Used to remove the roller bearing inner race from the carrier gear.</p>	384
	F	1	1A-96514 (9548127)	<p>Arbor, Turbine Bearing Pressing</p> <p>Class 1 Rebuild - Used on all turbos except high capacity - 1 required</p>	385
	F	1	2B-39720 (9548128)	<p>Arbor, Turbine Bearing Pressing</p> <p>Class I Rebuild Used on high capacity turbos only - 1 required.</p> <p>When used with a press, removes the turbine bearing from the clutch support.</p> <p>NOTE</p> <p>2B-39720 (9548128) also used as idler gear stubshaft pressing fixture.</p>	386

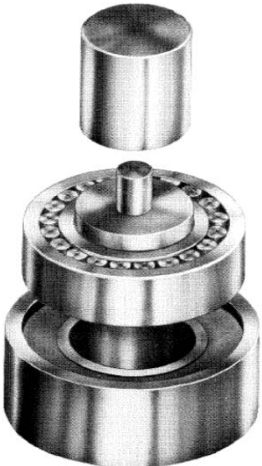
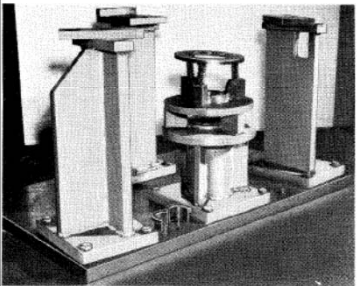
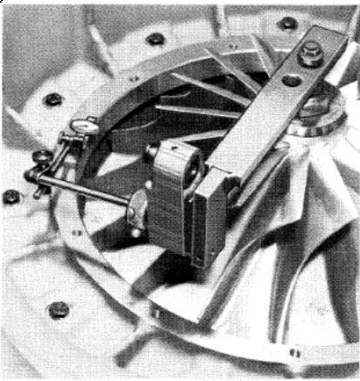
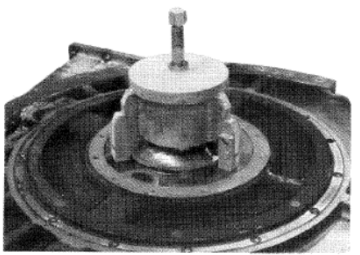
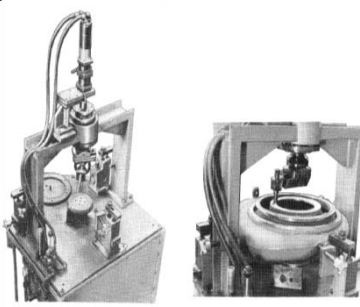
picture	F/L	QTY TOTAL	Part number	description	Item
 18183	L	2	1A-96517 (9548129)	Guide Pin, Impeller Cover Class 1 Rebuild - Used on all turbos - 2 required. Ensures proper removal and installation of the impeller cover and avoids damage to the impeller.	387
 19543	F	1	1A-93403 (9548130)	Protector, Impeller Class 1 Rebuild Used on 8E & EB, I2E & EB, and T-type turbos - 1 required	388
 24893	F	1	2B-36885 (9548131)	Protector, Impeller Class 1 Rebuild - Used on 16E & EB and 20E & EB turbos - 1 required. Protects the impeller during assembly and disassembly. When used in conjunction with the stop and bar shown in the illustration, it provides a means for safely tightening and loosening the impeller nut.	389
 24893	F	2	2B-725 10 (9562158)	Fixture, Rotor Holding Class I Rebuild Used on all turbos - required. Fixture used to lock rotating assembly in place while tightening or loosening impeller nut. With the idler gear(s) removed, the fixture frame mounts to the carrier bearing support and is secured with threaded knobs. Two interchangeable center splined hubs are provided to engage either the standard or Hi-capacity sun gear.	390
 20914	F	1	1A-96518 (9549775)	Arbor, Idler Support Bearing Removal, Pressing Class I Rebuild Used on all turbos - 1 required. Used to remove the ball bearing from the idler gear support.	391
 18245-1	F	4	1A-96519 (9525495)	Driver, Taper Pin Class I Rebuild - Used on all turbos - 4 required. Used to install the tapered dowels between the carrier bearing support and idler gear support. The driver is designed to protect the threaded ends of the dowels.	392
 20915	F	1	1A-96520 (9549774)	Arbor, Carrier Support Bearing Removal Class I Rebuild - Used on all turbos - 1 required. With a press, removes the roller bearing outer race from the carrier bearing support.	393


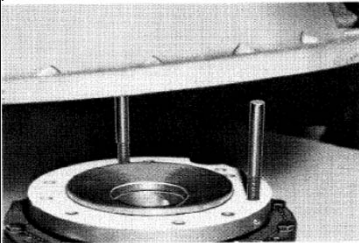
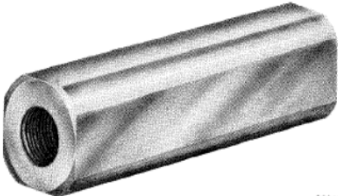
picture	F/L	QTY TOTAL	Part number	description	Item
 19537	F	1	IA-96521 (9570397)	<p>Puller, Impeller Class 1 Rebuild - Used on 8E, 12E, and T-type turbos - 1 required. Exerts an even force on the impeller during removal to prevent damage to the impeller or the shaft. NOTE This puller is only used on old style impellers with three threaded holes in the face. Present design impellers utilize an inner spline puller 2B-57173 (9548097), which is similar to the puller used on 16E & EB and 20E & EB turbos</p>	394
 18843-1	F	1	2B-37532 (9548096)	<p>Puller, Impeller Class 1 Rebuild - Used on 16E & EB and 20E & EB turbos - 1 required. Used to remove the impeller from the shaft. Exerts an even force on the impeller to prevent damage to the impeller or the splined shaft. The puller is inserted in the inner spline of the impeller.</p>	395
 31024	F	1	2B-57173 (9548097)	<p>Puller, Impeller Class 1 Rebuild - Used on 8E & EB, 12E & EB, and T turbos - 1 required. Exerts an even force on the impeller during removal to prevent damage to the impeller or shaft. NOTE Used on new style impeller with an inner spline. For puller to remove old style impellers with threaded holes, see IA-96521.</p>	396
 20516	F	1	IA-97936	<p>Idler Gear Bushing Removal, Pressing Class 1 Rebuild Used on T and right-hand marine E & EB turbos - 1 required. With a press, applies an even force to remove the bushing from this style idler gear.</p>	397
 20517	L	1	1A-98338 (9570396)	<p>Scraper, Carbon Class I Rebuild Used on all turbos - required. Used to remove carbon buildup from metal surfaces. NOTE Do not use on bearing surfaces.</p>	398
 19541	F	1	IA-98741 (9548099)	<p>Pilot, Sun Gear Class 1 Rebuild Used on all turbos except high capacity - 1 required. NOTE With adapter 2B-53833(9548134), this tool can be used Oil a high capacity gear train turbocharger. During assembly and disassembly, this device ensures the correct alignment of the sun gear while installing or removing the compressor section. Use of a sun gear pilot prevents damage to the labyrinth seals, the bearings, and the bearing and seal surfaces of the turbine wheel assembly. NOTE A source of compressed air must be available to operate this tool.</p>	399
	L	1	IL-650L	<p>Eyebolt, Rotor, 1/2"-20 Class 1 Rebuild - Used on 8E & EB, 12E & EB, and T-type turbos - 1 required.</p>	400

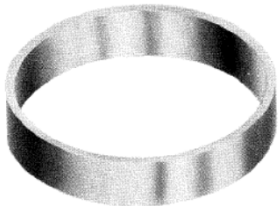


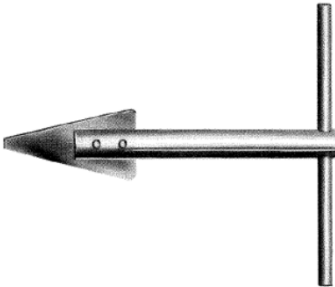


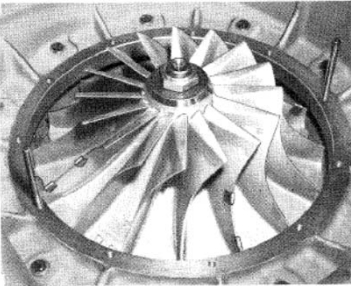

picture	F/L	QTY TOTAL	Part number	description	Item
 18203	L	1	IL-650T	<p>Eyebolt, Rotor, 3/8"-24</p> <p>Class 1 Rebuild - Used on 16E & EB and 20E & EB turbos - 1 required.</p> <p>Used to facilitate movement and inspection of the rotating assembly. Stud lengths conform to the depth of the threaded hole in the turbine wheel assembly.</p>	401
 20531	F	1	IL-1845 (9548094)	<p>Lifter, Main Housing Inspection</p> <p>Class I Rebuild - Used on all turbos - 1 required.</p> <p>Suspends the main housing in an upright position for inspection. Mounts to the top of the housing flange for the turbine bearing support</p>	402
 18264-1	F	2	IL- 1846 (9548095)	<p>Lifter, Main Housing</p> <p>Class I Rebuild - Used on all turbos - 1 required.</p> <p>Positions the main housing as shown in the illustration. Facilitates removal and installation on the trunnion.</p>	403
 20622	F	1	IL-185 I (9548092)	<p>Lifter, Main Housing Washing</p> <p>Class 1 Rebuild - Used on all turbos - 1 required.</p> <p>Mounts to the main housing at the oblong oil drain in the horseshoe area. The lifting bracket extends above the fluid level in the cleaning tank for easy insertion and removal.</p>	404
 20623	F	1	IL-1897 (9548093)	<p>Lifter, Compressor Housing Washing</p> <p>Class I Rebuild Used on all turbos - 2 required.</p> <p>Can be used for inspection and washing of both the compressor bearing support and the compressor scroll. Mounts through a bolt hole in the flange.</p>	405

picture	F/L	QTY TOTAL	Part number	description	Item
 19542	F	1	IL-2140 (9548090)	<p>Lifter, Gear Section Class I Rebuild Used on all turbos - required.</p> <p>Maintains the horizontal position of the gear section during assembly and disassembly. With the idler gear removed, the bottom bracket of the lifter mounts to the bottom of the carrier bearing support with the legs on either side of the carrier gear. The threaded knobs are then tightened against the top of the support.</p>	406
 19540	F	1	IL-1842 (8293333)	<p>Lifter, Turbo Class 1 Rebuild Used on all turbos - 1 required.</p> <p>Maintains the proper attitude of the turbocharger during lifting and protects the exhaust duct seals from damage due to lifting chains pressing against the duct.</p> <p>Install the four turbo lifting eyebolts 8496116 in the mounting pads in the main housing and the compressor bearing support. The two longer chains mount to the main housing eyebolts and the two shorter chains mount to the compressor bearing support eyebolts.</p>	407
 20544	L	1	IL-2670	<p>Lifter, Rotor Class 1 Rebuild - Used on all turbos except high capacity - 1 required.</p> <p>Maintains the turbine wheel and impeller in a horizontal position while moving it with a hoist.</p>	408
 18114-1	F	1	IL-3029 (9570398)	<p>Lifter, Turbine Bearing Support Class I Rebuild Used on all turbos - 1 required.</p> <p>Used with a chain hoist for lifting the turbine bearing support. Mount as shown in the illustration.</p>	409
 19545	L	2	1L-3031	<p>Lifter, Compressor Rollover Class 1 Rebuild - Used on all turbos - 2 required.</p> <p>Use with eyebolts 1A-37166. During assembly and disassembly, the compressor section must be rolled over. Using this tool and compressor lifter IL-3032 (9548132), this action can be accomplished.</p> <p>NOTE Instructions for the rollover of the compressor section are given in Section 4 of this M.I.</p>	410

picture	F/L	QTY TOTAL	Part number	description	Item
 <p>20545</p>	F	1	1L-3032 (9548132) -	<p>Lifter, Compressor Section Class I Rebuild Used on all turbos - required.</p> <p>Used to lift the compressor section during assembly and disassembly. Also used for rollover of the compressor section when used with rollover fixture 1L-3031 (for rollover instructions, see Section 4 of this M.I.), and to lift the compressor bearing support during doweling.</p> <p>To mount, position the two ends of the crossbar over the compressor bearing support lifting pads and the swivel leg to the air duct flange. Tighten the hand wheel to secure the fixture. The position of the lifting eye may also be adjusted for the proper horizontal position of the lifter by using the adjusting device on the center beam.</p>	411
 <p>20547</p>	F	1	2B-3653I	<p>Arbor, Idler Gear Bushing Installation, Pressing Class I Rebuild Used on T and right-hand marine E & EB turbos - 1 required. Presses bushing into the idler gear.</p>	412
 <p>20553</p>	F	1	2B-36695 (9549777)	<p>Clip, Spring Class 1 Rebuild Used on all turbos with roller clutches - 24 required. During assembly of the roller clutch, these spring clips hold the rollers and springs in the camplate. Twelve used at a time.</p>	413
 <p>21004</p>	F	1	2B-37772 (9549782)	<p>Pressing Fixture, Idler Gear and Bearing Class I Rebuild Used on all turbos - 1 required.</p> <p>During assembly and disassembly, the double roller bearing and stubshaft must be removed from and installed in the idler gear without damaging the bearing rollers. This fixture supports the gear during both operations and exerts force only on the outer race of the bearing.</p>	414
 <p>12329</p>	F	1	2B-39683 (9549778)	<p>Arbor, Carrier Support Bearing Installation, Pressing Class 1 Rebuild Used on all turbos - 1 required.</p> <p>With a press, used to press the roller bearing inner race onto the carrier gear.</p>	415

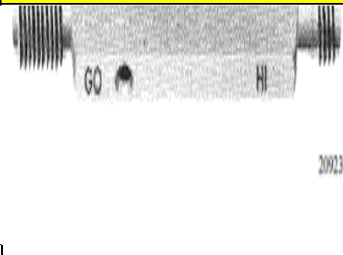
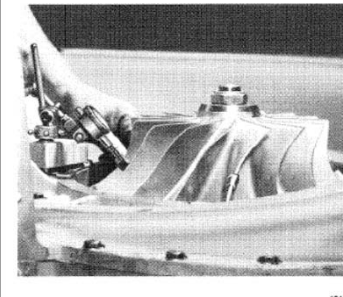



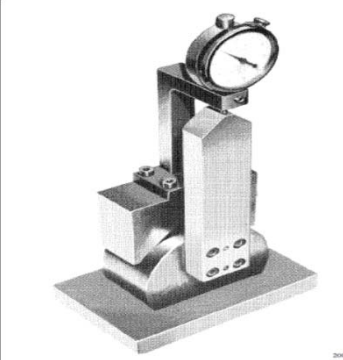
picture	F/L	QTY TOTAL	Part number	description	Item
 21065	F	1	2B-39720 (9549783)	<p>Pressing Fixture, Idler Gear Stubshaft Class 1 Rebuild Used on all turbos - I required.</p> <p>Used to press the idler gear stubshaft into and out of the double roller bearing. The hearing arbor supports the inner race of the bearing during both operations to prevent damage to the bearing rollers. The stubshaft arbor accommodates the stubshaft pilot when pressing the stubshaft out and is used with the stop plate and spacer 8358571 when installing the stubshaft.</p> <p>NOTE This fixture also used for pressing turbine bearings on high capacity turbos.</p>	416
 18101-1	F	1	2B-43515 (9548091)	<p>Stand, Compressor Section Class I Rebuild - Used on all turbos - I required.</p> <p>Used for assembly and disassembly of the compressor section. Prevents damage to the various components, particularly the rotating assembly</p>	417
 18149	F	1	2B-48872 (9549776)	<p>Bracket, Impeller Sweep Indicator Class I Rebuild - Used on all turbos - I required.</p> <p>Used to measure impeller to scroll concentric square ness, bore concentricity, and bearing clearance. Mounts to the threaded hole in the end of the rotating assembly. The outside bolt hole is used on 16E & EB and 20E & EB turbos and the inside hole is used on T, 8E & EB, and 12E & EB turbos</p>	418
 28404	F	1	IA-96516 (9549781)	<p>Puller, Compressor Bearing Class 1 Rebuild Used on all turbos - I required.</p> <p>Used during disassembly to remove the compressor journal bearing from the compressor bearing support.</p>	419
 2807 2802	F	1	2B-47052 (9548088)	<p>Qualifying Fixture, Turbine Inlet Scroll Class I Rebuild - Used on all turbos - I required.</p> <p>Used to dimensionally qualify the turbine inlet scroll for reuse or after machining. As shown in the second illustration, the fixture can be used for a small amount of machining, such as finish cuts.</p> <p>NOTE To be used for machining; a source of compressed air is required.</p>	420


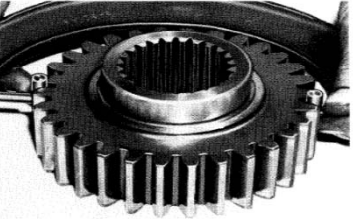
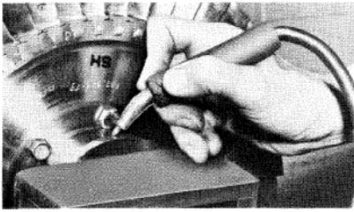
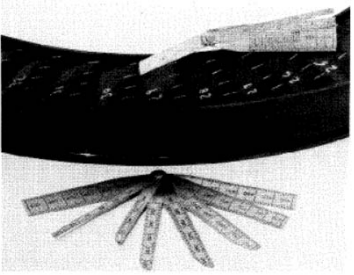
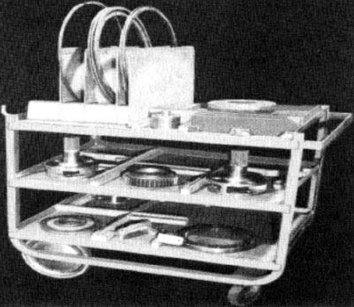
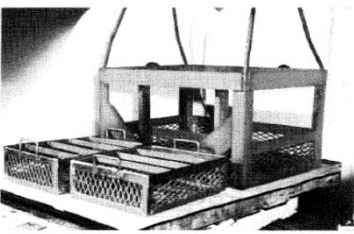
picture	F/L	QTY TOTAL	Part number	description	Item
 18191-1	L	2	2B-53485 (9570399)	Guide Pin, Gear Section Class 1 Rebuild - Used on all turbos - 2 required. During installation and removal of the gear section, the guide pins protect the planet gears, ring gear, and sun gear from damage	421
 20640	F	1	2B-53487	Arbor, Planet Shaft Removal, Pressing Class 1 Rebuild Used on all turbos - 1 required. With carrier shaft fixtures IA-91900 (9548098) or 2B-53094 (9550434), used to press the planet shafts from the carrier shaft assembly.	422
 12185	L	2	2B-53489	Guide Pin, Clutch Class 1 Rebuild - Used on all turbos - 2 required. Guides the turbine bearing support onto the clutch during assembly of the turbocharger.	423
 18108	L	2	2B-53490 (9570400)	Guide Pin, Turbine Bearing Support Class 1 Rebuild - Used on all turbos - 2 required. Used to guide the turbine bearing support onto the main housing during assembly of the turbo.	424
 20642	L	2	2B-53491 (9548133)	Guide Pin, Compressor Section Class 1 Rebuild - Used on all turbos - 2 required. Along with the sun gear pilot fixture, used to guide the compressor section during assembly and disassembly.	425
 20643	F	1	2B-53606 (9570401)	Nut, Turbine Drive Class I Rebuild - Used on 8E & EB, 12E& EB, and T turbos - 1 required. 2B-53607 - Nut, Turbine Drive Class I Rebuild Used on 16E& EB and 20E & EB turbos - 1 required. At times removal of the rotating assembly from the compressor section can be difficult due to internal damage. Part of the rotating assembly may still be salvageable, therefore, this device should be used to protect the threaded end of the turbine wheel. The drive is screwed to the threaded end of the rotating assembly and then may be pounded to force the assembly free.	426

picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	2B-53833 (9548134)	Overrunning Clutch Ring Gear Adapter Class 1 Rebuild - Used on high capacity turbos - 1 required. Can be used to adapt the standard sun gear pilot IA-98741 (9548099) for use on the high capacity turbocharger. This adapter is placed in the ring gear to make up the difference between the ring gear diameters of the two types of turbos.	427
	L	5	30-BR-10	Brush, Bristle Class 1 Rebuild - Used on all turbos - 20 required.	428
	F	1		Used with Heli-Coil equipment. 60-IN-30 Tap, 1/4"-20 Heli-Coil 60-IN-35 - Tap, 5/16"-18 Heli-Coil 60-IN-40 - Tap, 3/8"-16 Heli-Coil 60-IN-45 - Tap, 3/8"-24 Heli-Coil 60-IN-50 Tap, 1/2"-13 Heli-Coil 60-IN-55 Tap, 1/2"-20 Heli-Coil 60-IN-60 Tap, 5/8"-11 Heli-Coil Class I Rebuild Used on all turbos - 3 of each required.	429
	F	1		Special taps to thread holes for Heli-Coil inserts. The size of the tap allows for the insert thickness so the final hole size will be correct after the insert is installed. 65-IN-25 Extractor, Heli-Coil Insert, 1/4" thru 3/8" 65-IN-30 Extractor, Heli-Coil Insert, 1/2" thru 5/8" Class 1 Rebuild Used on all turbos - 2 of each required. Used to remove Heli-Coil inserts. Apply the tool to the insert and strike the tool head lightly. Turn the extractor counterclockwise, maintaining steady downward pressure.	430
	F	1		70-IN-30 - Insertor, 1/4"-20 Heli-Coil 70-IN-35 - Insertor, 5/16"-18 Heli-Coil 70-IN-40 Insertor, 3/8"-16 Heli-Coil 70-IN-45 Insertor, 3/8"-24 Heli-Coil 70-IN-50 - Insert or, 1/2"-13 Heli-Coil 70-IN-55 Insertor, 1/2"-20 Heli-Coil 70-IN-60 - Insertor, 5/8"-11 Heli-Coil Class 1 Rebuild Used on all turbos - 1 required. Insertion tool for Heli-Coil inserts.	431
	L	2	125-BR-15	Brush, Wire Class I Rebuild Used on all turbos - 10 required. Used with Heli-Coil equipment.	432
	F	1	500-WA-100 (9570407)	Wax, Impeller Clearance Measurement Class 1 Rebuild Used on all turbos - 5 pound box. When determining impeller to cover clearances, this wax is used. Material is 4" x 8" sheets of "Red Refined Wax #47315", cut to size for use.	433
	F	1	515-EX-35 (9570402)	Extractor, 1/4" Heli-Coil Tap	434
	F	1	515-EX-45 (9570403)	Extractor, 5/16" Heli-Coil Tap	435

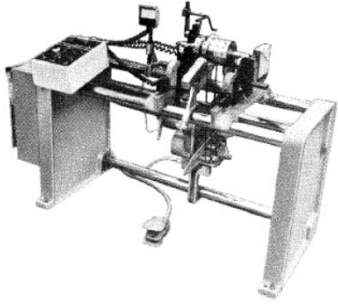
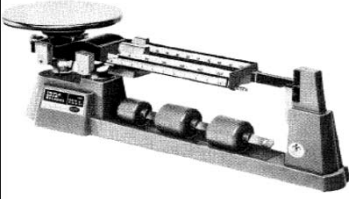
picture	F/L	QTY TOTAL	Part number	description	Item
 20621	F	1	515-EX-65 (9570404)	Extractor, 3/8" Heli-Coil Tap	436
	F	1	515-EX-85 (9570405)	Extractor, 1/2" Heli-Coil Tap	437
	F	1	515-EX-100 (9570406)	Extractor, 5/8" Heli-Coil Tap	438
	F	1		Class 1 Rebuild - Used on all turbos - 3 of each required. Extraction tool for broken Heli-Coil taps. The four legs fit in the flutes of the tap.	439
 20622	F	1	825-WR-5 (9570408)	Wrench, Heli-Coil Tap	440
	F	1	825-WR-10 (9570409)	Wrench, Heli-Coil Tap	441
	F	1	825-WR-15 (9570410)	Wrench, Heli-Coil Tap	442
	F	1		Class I Rebuild Used on all turbos - 1 of each required. Wrench used for hand tapping of holes.	443
	F	1	8196884	No Illustration Lubriplate Class 1 Rebuild Used on all turbos - 1 Case required. During assembly of the turbocharger, some surfaces require application of a lubricant to secure a gasket, grommet or "O" ring. This material can be used for that purpose.	444
	F	1	8196885	No Illustration Lubriplate Class I Rebuild Used on all turbos - 1 case required. Used as assembly lubricant on bearing surfaces of gear drive section components and to retain positioning of thrust washers.	445
	F	1	8211194	No Illustration Shellac, Orange Class 1 Rebuild - Used on all turbos - 1 Case required. Used for application of the three pieces gasket to the main housing horseshoe during assembly. Proper application of this gasket is very critical to prevent oil leaks. This shellac aids in the application.	446
	F	1	8366747	No Illustration Sealant, Silicone Rubber Adhesive Class 1 Rebuild - Used on all turbos - 1 case required. Used on machined surface of compressor bearing support to form gasket seal with compressor scroll	447
	F	1	8354866	No Illustration Compound, Hi-Temp Thread Class 1 Rebuild Used on all turbos - 1 Case required. This material is applied to bolts and pipe plugs used in high temperature areas.	448
	F	1	8307731	No Illustration Lubricant, Lo-Temp Thread Class I Rebuild - Used on all turbos - 1 case required. This material is applied to all bolts except those in high temperature areas or where dry application is specified.	449
 21063	F	1	8358571	Spacer, Idler Gear Stubshaft Installation Class I Rebuild Used on all turbos - 1 required. Used with pressing fixture 2B-39720 (9549783) when pressing the idler gear stubshaft into the double roller bearing.	450




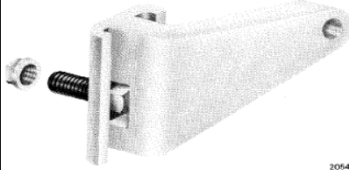
picture	F/L	QTY TOTAL	Part number	description	Item
 18137	L	4	8496116	Eyebolt, Turbocharger Lifting Class 1 Rebuild Used on all turbos - 4 required. Shoulders seat against turbo allowing lateral forces to be safely exerted when lifting. Used with turbo lifter 1L-1842 (8293333).	451
 20650	L	1	8496998	Penetrant, Dye Class 1 Rebuild Used on all turbos - 1 Kit required. Whenever various housings and components are suspected of cracks, a means must be available to verify their condition. Also, the extent of a visible crack must be ascertained to facilitate proper repair. This kit contains a cleaner, penetrant, and developer to check these cracks. Each kit contains instructions for use.	452
	F	1	8496999	Magnaflux Equipment Class 1 Rebuild Used on all turbos -1 required. Many smaller metallic pieces, such as gears, must be inspected for cracks. Using this equipment, cracks not normally visible may be found.	453
	F	1	9322656	Magnaglo Concentrate Class 1 Rebuild Used on all turbos -1 Pound container. This material is used in the inspection process with the above equipment.	454
 18254-1	F	1	8497001	Container, Rotor Class 1 Rebuild - Used on all turbos - 4 required. Rotating assemblies should be stored and transported in a suitable container with internal supports that will protect the assembly	455
 20654	F	1	8497048	Freezer Class 1 Rebuild - Used on all turbos - 1 required. Various bearings, shafts, and inserts that have an interference fit must be frozen for installation. This freezer will provide the medium necessary for chilling the pieces.	456
	F	1	9339834	No Illustration Lubricant, Molykote bonded spray Class 1 Rebuild - Used on all turbos - 1 case required. This material is used as pre-lube coating on seal rings and gear drive components during assembly	457
	F	1	G-51322	Gage, 1/4"-20 Heli-Coil Thread	458
	F	1	G-51323	Gage, 5/16"-18 Heli-Coil Thread	459
	F	1	G-51324	Gage, 3/8"-16 Heli-Coil Thread	460
	F	1	G-51401	Gage, 3/8"-24 Heli-Coil Thread	461
	F	1	G-51402	Gage, 1/2"-13 Heli-Coil Thread	462
	F	1	G-51403	Gage, 1/2"-20 Heli-Coil Thread	463
	F	1	G-51404	Gage, 5/8"-11 Heli-Coil Thread	464

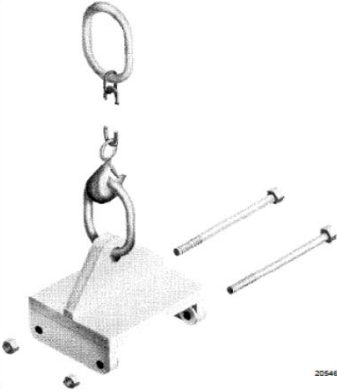



picture	F/L	QTY TOTAL	Part number	description	Item
 A GO thread plug with a threaded end and a handle. The number 20923 is visible in the bottom right corner.	F	1		Class I Rebuild Used on all turbos - 1 of each required. Special gage to check a hole threaded by a Heli-Coil tap. Accuracy of the finished thread, when the insert is installed, is dependent upon the accuracy of the tapped hole. If the finished tapped hole gages satisfactorily, the installed insert will be within the thread tolerance. Therefore, it is not necessary to gage the installed insert. After the insert is installed, the GO thread plug may not enter freely; however, the insert will always seat itself when the bolt or screw is installed and tightened.	465
 A magnetic base for a dial indicator, used for measuring turbocharger components. The number 18156 is visible in the bottom right corner.	F	1	G-53 123	Base, Dial Indicator, Magnetic Class 1 Rebuild Used on all turbos -1 required. During assembly of the turbocharger, dial indicator readings are required. This magnetic base provides a suitable platform for those readings.	466
 A flexible neck inspection light with a coiled cable and a handle. The number 20886 is visible in the bottom right corner.	F	1	G-59719	Inspection Light Class 1 Rebuild Used on all turbos -1 required. A light with a 254.0 mm (10.00") long flexible neck to assist in inspection of various passages for cracks and obstructions.	467
 A metal adjuster for the nozzle area, used for Class 1 Rebuild. The number 20885 is visible in the bottom right corner.	F	2	G-57518 (9549784)	Adjuster, Nozzle Area Class 1 Rebuild - Used on 12E & EB and T turbos - 1 required	468
	F	2	G-60610 (9549780)	Adjuster, Nozzle Area Class 1 Rebuild - Used on 16E & EB and 20E & EB turbos - 1 required	469
	F	2	G-61441 (9549785)	Adjuster, Nozzle Area Class 1 Rebuild Used on 8E & EB turbos - 1 required. Resets nozzle vanes to the correct area.	470
 A shroud sweep gage with a dial indicator and a handle, used for measuring shroud clearance. The number 204975 is visible in the bottom right corner.	F	2	G-59975 (9548089)	Gage, Shroud Sweep Class 1 Rebuild - Used on all turbos - 1 required. During assembly of the turbocharger, the shroud I. D. must be checked, after it is installed, to verify the proper clearance between the shroud and turbine blades. This gage centers on the rotating assembly axis for proper measurement. The gage is set on master gages provided for each turbo application. Center axis pilots are provided for both standard and high capacity gear train turbos. NOTE Dial indicator face is calibrated in English standard.	471
 A blade stretch gage with a dial indicator and a handle, used for measuring turbine blade stretch. The number 20688 is visible in the bottom right corner.	F	2	G-60731	Gage, Blade Stretch Class 1 Rebuild Used on all turbos - 1 required. When qualifying a turbine wheel for re-use, all blades must be measured for proper length. This gage mounts on the turbine seal surface of the rotating assembly and allows for some stretch in the blades. NOTE Dial indicator face is calibrated in English standard.	472

picture	F/L	QTY TOTAL	Part number	description	Item
 20889	F	1	G-62880 (9570411)	<p>Wrench, Shroud Clamp Torque</p> <p>Class I Rebuild Used on all turbos - 1 required.</p> <p>During assembly of the turbocharger, the shroud marmon clamp and a few bolts must be torqued in inch-pounds. This wrench has 3/8" square drive and a 0 to 200 inch-pounds range in increments of 10 inch-pounds. (Calibrated English standard.)</p>	473
 20890	F	1	G-64404	Gage Pin, 7.315 mm (.2880")	474
	F	1	G-64405	Gage Pin, 3.048 mm (.1200")	475
	F	1	G-64406	Gage Pin, 4.389 mm (.1728")	476
	F	1	G-66407	Gage Pin, 4.064 mm (.1600")	477
	F	1		<p>Class 1 Rebuild Used on all turbos - 2 of each required.</p> <p>Used to determine gear tooth wear.</p>	478
 18255	L	1	G-64409	<p>Etcher, Electric</p> <p>Class 1 Re build - Used on all turbos - 1 required.</p> <p>To ensure proper balance of the rotating assembly, the position of some items, such as the heat dam washer and the impeller spacer, must be permanently marked after alignment. This etcher provides an efficient means of accomplishing this.</p>	479
 20892	F	2	G-64410	<p>Gage, Nozzle Area</p> <p>Class I Rebuild - Used on all turbos - 1 required.</p> <p>The width of each nozzle vane must be accurately measured in three places to determine the total nozzle area. This gage facilitates that measurement. (Calibrated in English standard.)</p>	480
 20893	L	1	PE-5379 (9548086)	<p>Cart, Component Sets</p> <p>Class 1 Rebuild - Used on all turbos - 2 required.</p> <p>A three tiered cart with each shelf sectionalized to hold various small components such as labyrinth seals and the clutch support</p>	481
 19539	L	1	PE-6209 (9548087)	<p>Baskets, Wash</p> <p>Class 1 Rebuild - Used on all turbos - 1 required.</p> <p>A set of three baskets designed to hold the turbo doweling components and other ferrous and nonferrous components during washing.</p>	482


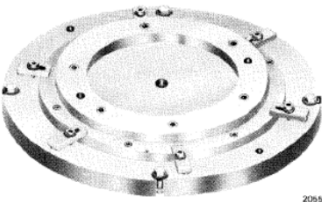
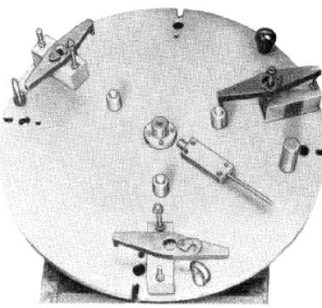

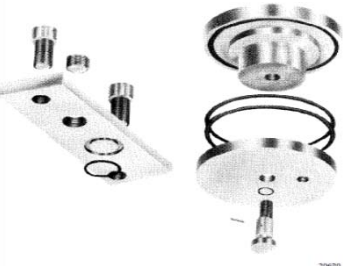
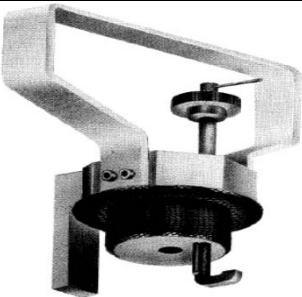
picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	PE-6440	Heat Lamp, Bearing Installation Class I Rebuild ~ Used Oil all turbos -1 required. Installation of the compressor journal bearing and the turbine bearing requires freezing of the bearing and heating the bore. This lamp is used to heat the bore. It has a 375 watt bulb.	483
	L	1	PE-6613	Stand, Rotor Class I Rebuild Used on all turbos - 2 required. Provides protection for the rotating assembly bearing journals when not in the regular storage container.	484
REBUILD CLASS 2					485
	F	1	IA-90960	Arbor, Clutch Bearing Installation, Pressing Class 2 Rebuild Used on all turbos with a roller clutch - I required. Presses the clutch doweling assembly bearings into place to the proper depth.	486
	F	1	2B-53488	Arbor, Clutch Bearing Removal, Pressing Class 2 Rebuild - Used on all turbos - I required. With a press, removes the bushings from the clutch doweling assembly	487
REBUILD CLASS 3					488
	F	1	IA-91450 (9548102)	Stand, Rotor Preparation Class 3 Rebuild - Used on all turbos except high capacity - I required. Provides support and protects the rotating assembly during various qualification and dimensional checks. With the back plate installed at the sun gear side as shown, support is provided for the ball bearing used in the heat dam washer squareness check. With the plate removed, the splined area can be used to secure the rotating assembly by clamping the sun gear.	489
	F	1	2B-53486	Centers, Rotor Inspection Class 3 Rebuild Used on all turbos except high capacity - I required. Provides a safe stand for rotor inspection.	490

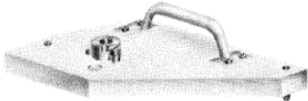


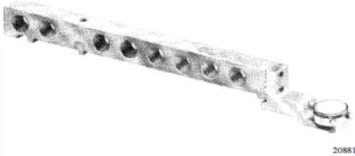
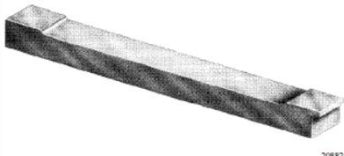
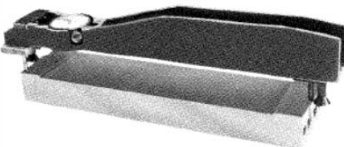
picture	F/L	QTY TOTAL	Part number	description	Item
 20653	F	1	8497000	<p>Balancer, Rotor Class 3 Rebuild - Used on all turbos -1 required.</p> <p>Provides a means to correct imbalance in a rotating assembly after rework or to qualify a used assembly for reuse. Two models are presently in use, the GP500 and the HBS-350GP, which supersedes the GP500. When balancing a rotating assembly, pulley 8498676 must be used with this machine.</p> <p>NOTE</p> <p>Setup and operating procedures for both of these models are included at the end of this section.</p>	491
	F	1	8498676	<p>No Illustration Pulley, Drive 1-1/2"</p> <p>Class 3 Rebuild Used on all turbos-1 required.</p> <p>Used with balancer 8497000 to provide the proper RPM for balancing the rotating assembly.</p>	492
 20891	F	1	G-64408	<p>Scale, Blade Weight Class 3 Rebuild Used on all turbos - required.</p> <p>When replacing turbine blades, each replacement blade must be within ± 0.5 gram of the old blade. This scale is graduated in 0.1 gram increments.</p>	493

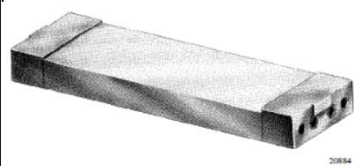
picture	F/L	QTY TOTAL	Part number	description	Item
				REBUILD CLASS 4	494
 20616	F	1	2B-37783	Reamer, Clutch Drive Pin Holes, Standard	495
	F	1	2B-37784	Reamer, Clutch Drive Pin Holes, 0.05 mm (.002") OS	496
	F	1	2B-37785	Reamer, Clutch Drive Pin Holes, 0.10 mm (.004") OS	497
	F	1	2B-37786	Reamer, Clutch Drive Pin Holes, 0.15 mm (.006") OS	498
	F	1	2B-37787	Reamer, Clutch Drive Pin Holes, 0.20 mm (.008") OS	499
	F	1		Class 4 Rebuild - Used on all turbos with roller clutches - 6 of each required. Reamers used for drive pin holes in the clutch doweling assembly. Standard size is 10.079- 10.084 mm (.3968" - .3970") and the reamers have a straight 7.894 - 7.904 mm (.3108" - .3112") shank.	500
REBUILD CLASS 5					501
 20541	F	1	IL-1924 (9548084)	<p>Lifter, Turbo Doweling Assembly</p> <p>Class 5 Rebuild Used on all turbos - I required.</p> <p>Use with clamp 1lr- 2170. Evenly positions the main housing assembly for insertion and removal from doweling fixture 2B-38661. Can also be used with the turbine bearing support and compressor bearing support mated to the main housing.</p> <p>The two oblong plates attached to the 654.1 mm (25.75") chains on the cross bar of the T shaped lifter are bolted to the main housing lifting pads, and the clamp IL-2170 is mounted on the outside of the oil drain hole in the bottom of the main housing horseshoe with the lifting hole of the clamp positioned over the centerline of the main housing.</p> <p>The 387.4 mm (15.25") chain in the front of the T shaped lifter is attached to the clamp. The doweling assembly can now be raised or lowered to the doweling fixture while maintaining a horizontal attitude.</p>	502
 20542	F	1	IL-1939	<p>Lifter, Turbo Doweling Assembly</p> <p>Rollover</p> <p>Class 5 Rebuild Used on all turbos - I required.</p> <p>Used with sling and clamp IL-3033. Reverses the position of the main housing after it has been mated with the turbine bearing support and the compressor bearing support to enable alignment and doweling of the idler gear support.</p> <p>Bolt the two plates on the lifter to the main housing lifting pads with the chains to the outside. With a hoist, suspend the doweling assembly and mount the sling and clamp IL-3033 to the two center bolt holes in the bottom of the main housing. Attach the sling and clamp to a second hoist positioned to direct the lifting force in the direction of rollover. Raise the second hoist until the doweling assembly is in the position desired and then simultaneously lower both hoists.</p>	503
 20643	F	1	IL-2170 (9548085)	<p>Clamp, Turbo Doweling Assembly Lifting</p> <p>Class 5 Rebuild Used on all turbos - I required.</p> <p>Used with lifter IL-1924. For a description and instructions for setup, see the description under turbo doweling assembly lifter IL-1924.</p>	504

picture	F/L	QTY TOTAL	Part number	description	Item
 20546	F	1	IL-3033	Sling and Clamp, Turbo Doweling Rollover Class 5 Rebuild - Used on all turbos - 1 required. Used with rollover lifter IL-1939. For description and instructions for use, see description under turbo doweling assembly rollover lifter IL-1939.	505
 20548	F	2	2B-36572-1	Reamer, Turbine Bearing Support, 0.13 mm (.005") OS	506
	F	2	2B-36572-2	Reamer, Turbine Bearing Support, 0.25 mm (.010") OS	507
	F	2	2B-36572-3	Reamer, Turbine Bearing Support, 0.38 mm (.015") OS	508
	F	2	2B-36572-4	Reamer, Turbine Bearing Support, 0.80 mm (1/32") OS	509
	F	2	2B-36572-5	Reamer, Turbine Bearing Support, 1.19mm (3/64") OS	510
	F	2	2B-36572-6	Reamer, Turbine Bearing Support, 1.59 mm (1/16") OS	511
	F	2		Class 5 Rebuild - Used on all turbos - 2 of each required. Reamers used to accommodate oversize dowels with an interference fit between the main housing and the turbine bearing support. Standard size is 12.687 mm +0.000 - 0.008 (.4995" +.0000" -.0003") and the reamers have a No.2 morse taper. These reamers are also used for oversize dowel holes for the two extra holes in the idler gear support in marine turbochargers with ratchet clutches.	512
 20549	F	2	2B-36573-1	Reamer, Compressor Bearing Support, 0.13 mm (.005") OS	513
	F	2	2B-36573-2	Reamer, Compressor Bearing Support, 0.25 mm (.010") OS	514
	F	2	2B-36573-3	Reamer, Compressor Bearing Support, 0.38 mm (.015") OS	515
	F	2	2B-36573-4	Reamer, Compressor Bearing Support, 0.80 mm (1/32") OS	516
	F	2	2B-36573-5	Reamer, Compressor Bearing Support, 1.59mm (1/16") OS	517
	F	2	2B-36573-6	Reamer, Compressor Bearing Support, 3.18 mm (1/8") OS	518
	F	2	2B-36573-7	Reamer, Compressor Bearing Support, 3.97 mm (5/32") OS	519
	F	2	2B-36573-8	Reamer, Compressor Bearing Support, 4.76 mm (3/16") OS	520
	F	2		Class 5 Rebuild - Used on all turbos - 2 of each required. Reamers used to accommodate oversize dowels with an interference fit between the main housing and the compressor bearing support and between the compressor bearing support and the compressor scroll. Standard size is 12.689 mm + 0.000 - 0.008 (.4996" + .0000" - .0003") and the reamers have a No. 2 morse taper.	521
 20550	F	2	2B-36575-1	Reamer, Idler Gear Support, 0.13 mm (.005") as	522
	F	2	2B-36575-2	Reamer, Idler Gear Support, 0.25 mm (.010") as	523
	F	2	2B-36575-3	Reamer, Idler Gear Support, 0.38 mm (.015") as	524
	F	2	2B-36575-4	Reamer, Idler Gear Support, 0.80 mm (1/32") as	525
	F	2	2B-36575-5	Reamer, Idler Gear Support, 1.19mm (3/64") as	526
	F	2	2B-36575-6	Reamer, Idler Gear Support, 1.59mm (1/16") as	527
	F	2		Class 5 Rebuild Used on all turbos - 2 of each required. Reamers used to accommodate oversize dowels with an interference fit between the main housing and the idler gear support. Standard size is 12.827 mm + 0.000 - 0.008 (.5050" + .0000" - .0003") and the reamers have a No.2 morse taper.	528

picture	F/L	QTY TOTAL	Part number	description	Item
 20551	F	2	2B-36578-1 (9559900)	Reamer, Carrier Bearing Support, 0.13 mm (.005") as	529
	F	2	2B-36578-2 (9559898)	Reamer, Carrier Bearing Support, 0.25 mm (.010") as	530
	F	2	2B-36578-3 (9559899)	Reamer, Carrier Bearing Support, 0.38 (.015") as	531
	F	2	2B-36578-4	Reamer, Carrier Bearing Support, 0.80 mm (1/32") as	532
	F	2	2B-36578-5 (9559901)	Reamer, Carrier Bearing Support, 1.19 mm (3/64") as	533
	F	2	2B-36578-6 (9559902)	Reamer, Carrier Bearing Support, 1.59 mm (1/16") as	534
	F	2		Class 5 Rebuild Used on all turbos - 2 of each required. Reamers used to accommodate oversize dowels with an interference fit between the carrier bearing support and the idler gear support. Standard size is 13.528 mm + 0.000 - 0.008 (.5326" +.0000" -.0003") and the reamers have a 11.11 mm (7/ 16") shank.	535
 18170  18182	F	1	2B-38661 (9548082)	Aligner, Turbo Doweling Class 5 Rebuild Used on all turbos -1 required. Fixture used for alignment of the turbo doweling assembly. Can be used for complete or partial alignment. The first illustration shows the alignment fixture and the second shows the tram gages for aligning the idler gear support to the main housing. Instructions for use are in Section 3 of this M.1.	536
 20551	F	2	75-RE-8	Reamer, Carrier Bearing Support, Standard 13.528mm + 0.000 -0.008 (.5326" + .0000" - .0003") Class 5 Rebuild - Used on all turbos - 2 required. 20551 Reamer for standard size dowels with an interference fit between the carrier bearing support and the idler gear support. Reamer has a 11.11 mm (7/ 16") shank.	537
				REBUILD CLASS 6	538
 18208	F	1	IA-91028 (9548083)	Fixture, Turbine Scroll Machining 20509 Class 6 Rebuild Used on all turbos - 1 required. Aligns and holds the turbine inlet scroll for machining on a vertical lathe after weld repair.	539
 20512	F	1	IA-91040	End Mill, Turbine Scroll Keyway, Semi-finish Class 6 Rebuild Used on all turbos - 6 required.	540
	F	1	IA-91041	End Mill, Turbine Scroll Keyway, Finish Class 6 Rebuild Used on all turbos - 12 required Special end mills for machining inlet scroll keyways. Used with end mill holder IA-98019 (9548081).	541
 18256	F	1	IA-91752 (9548080)	Tester, Hydrostatic Class 6 Rebuild - Used on all turbos -1 required. Primarily used to hydrostatically test oil and air passages in the compressor bearing support after rework or a severe failure. To blank off the support use 2B-52086. Blanks can be made by the user to adapt the fixture to other housings	542

picture	F/L	QTY TOTAL	Part number	description	Item
	F	1	IA-98019 (9548081)	Holder, End Mill Class 6 Rebuild Used on all turbos -1 required. Special holder for end mills IA-91040, IA-91041, and I15-CU-25. This fixture has a No. 50 milling machine taper.	543
	F	1	2B-36643 (9548078)	Fixture, Shroud I.D. Machining Class 6 Rebuild Used on all turbos - I required. Holding fixture for machining the shroud LD. can be used for both coated and non-coated shrouds. Used with any vertical lathe that can accommodate its 450.9 mm (17.75") a.D. NOTE Ensure that the hold down arrangement on the lathe table does not distort the shroud	544
	F	1	2B-52083 (9548079)	Fixture, Compressor Bearing Support Machining Class 6 Rebuild - Used on all turbos -1 required. Properly positions the compressor bearing support for bore, thrust face, and insert machining. Used with guide pins 2B-52085 and handler 2B-52104 for insert machining of 16E & EB and 20E & EB compressor bearing supports. The vertical lathe must be able to accommodate the fixture's 1422mm (56.00") diameter.	545
	F	1	2B-52085	Guide Pin Class 6 Rebuild Used on 16E & EB and 20E & EB turbos - 2 required. Used with the compressor bearing support machining fixture 2B-52083 (9548079) to guide and align the insert during installation.	546
	F	1	2B-52086	Tester, Compressor Bearing Support Repair Class 6 Rebuild Used on all turbos - I required. Used with the hydrostatic tester 1A-91752 (9548080) to water test the compressor bearing support after repair or a severe failure of the turbocharger. The two round pieces seal the compressor journal bearing area, and the rectangular piece blanks the plug hole.	547
	F	1	2B-52104	Handler, Compressor Bearing Support Insert Class 6 Rebuild - Used on 16E & EB and 20E & EB turbos - 1 required. Used with the compressor bearing support machining fixture 2B-52083 (9548079) and guide pins 2B-52085 to install a chilled insert into the support. The device locates on the oil drain hole.	548

picture	F/L	QTY TOTAL	Part number	description	Item
 20646	F	1	2B-53894	Drill Fixture, Idler Gear Support Conversion To High Capacity Class 6 Rebuild - Used to convert 16E & EB and 20E & EB turbos to high capacity - 1 required. Used as a guide for machining the idler gear support for conversion to a high capacity gear train turbo. This fixture locates in the idler stubshaft pilot and in the bolt hole directly below the drain hole in the support. Perform the following steps. 1. Drill a second oil spitter hole 1.19mm (3/64") diameter, 15.88 mm (5/8") deep. 2. With the larger 22.225 mm (.8750") D.D. bushing removed so it does not obstruct the drilling guide for the additional bolt hole, drill the bolt hole 10.716 mm (27/64") diameter, through the idler gear support 30.15 mm (1.187"). 3. Install the 18.256 mm (23/32") 1.0. bushing and lock with the locking bolt. Drill a 18.256mm (23/32") diameter hole through the support. 4. Replace the 18.256 mm (23/32") J.D. bushing with the 19.055 mm (.7502") J.D. bushing. Ream the hole. 19.063 mm + 0.000 - 0.025 (.7505" + .0000" - .0010") through the support. 5. Remove the fixture and tap the new bolt hole for a 1/2" UNC-3B thread through the support.	549
	F	1			550
 20647	F	1	2B-53895	Special Bushing, 10.72 mm (.422") Diameter Class 6 Rebuild - Used to convert I6E & EB and 20E & EB turbos to high capacity - 1 required. A guide for drilling a hole into the main housing to accept the bolt through the idler stubshaft pilot in high capacity turbos. 1. Dowel and bolt the idler gear support to the main housing. Position the two pieces with the idler gear support facing up. 2. Install the bushing in the idler gear support stubshaft pilot and drill a 10.72 mm (.422") diameter hole, 34.93 mm (1.375") deep into the main housing. 3. Remove the bushing and tap the hole for a 1/2" UNC-3B thread, 25.4 mm (1.00") deep.	551
 20612	F	1	115-CU-25	End Mill, Turbine Scroll Keyway, Rough Class 6 Rebuild - Used on all turbos - 12 required. Special end mill used for rough cuts when machining the inlet scroll keyways. Used with end mill holder IA-98019 (9548081).	552
 20881	F	2	G-57273	Gage, Flange Thickness, Turbine Scroll Class 6 Rebuild - J required. Qualifies the inlet scroll's 3.23 mm (.127") flange thickness after machining. Set on Master Gage G-57274.	553
 20882	F	1	G-57274	Master, Turbine Scroll Flange Thickness Gage Class 6 Rebuild Used on all turbos - 1 required. Master for setting gage G-57273.	554
 20883	F	2	G-57324	Gage, Flange Diameter, Turbine Scroll Class 6 Rebuild Used on all turbos - 1 required. Qualifies the inlet scroll's 387.81 mm (15.268") flange and diameter after machining. Set on master gage G-57325	555

picture	F/L	QTY TOTAL	Part number	description	Item
	F	2	G-57325	Master, Turbine Scroll Flange Diameter Gage Class 6 Rebuild Used on all turbos - 1 required. Master for setting gage G-57324.	556