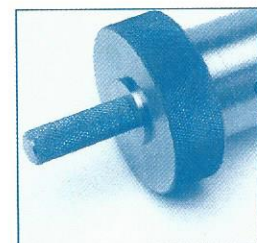
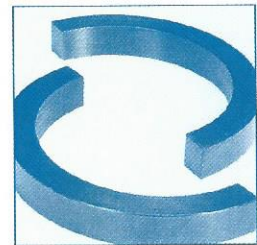
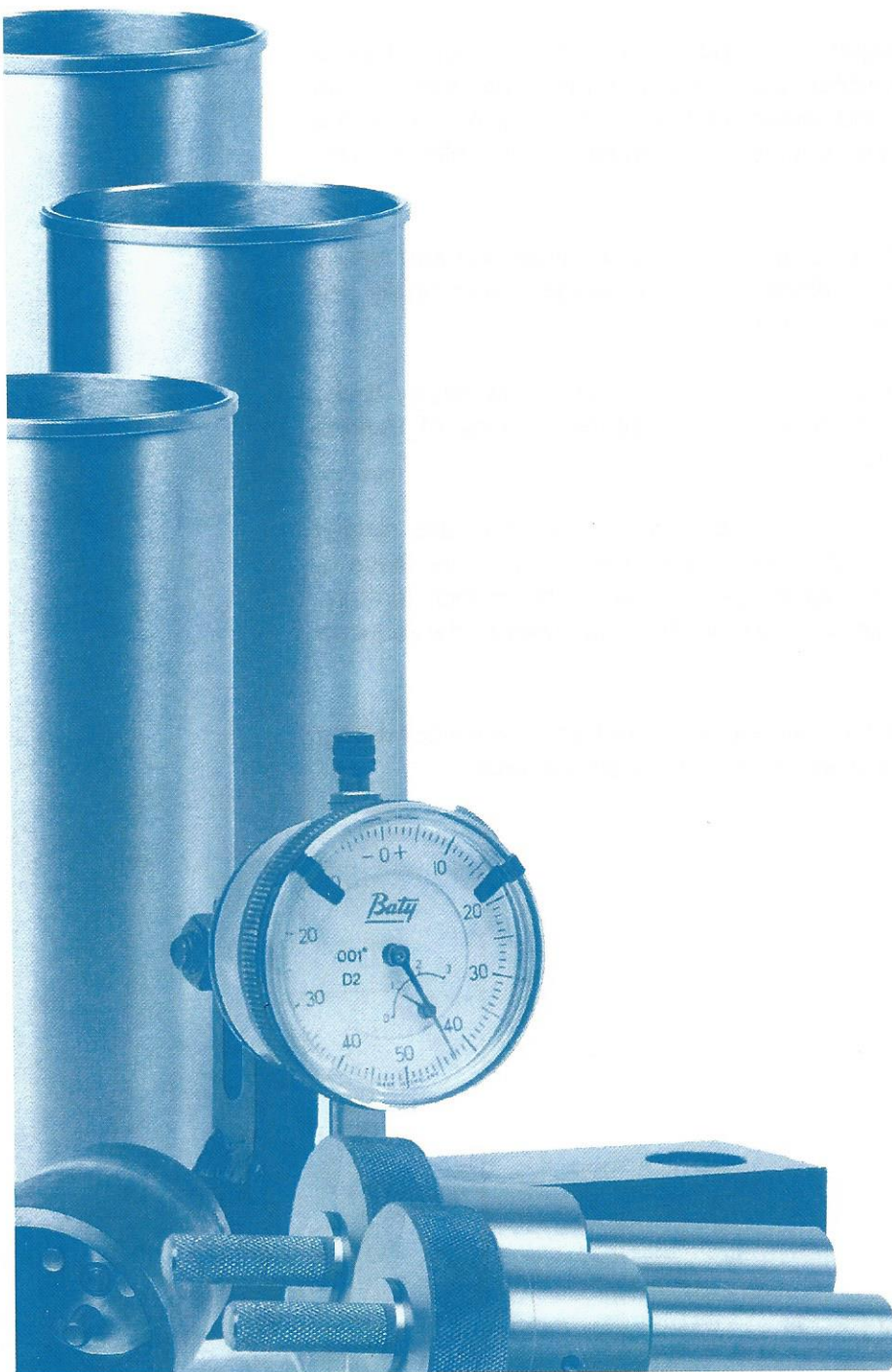


# Specialist Tool Catalogue



## **Perkins Service Tools**

This revised catalogue forms part of Perkins specialist tooling process. Perkins emphasises to its customers the need to use properly designed and tested tools in order to carry out service and maintenance procedures in the most correct, efficient and safe manner.

Perkins also recognises that some tools are available more readily than the more specialised tools developed specifically for procedures on Perkins engines.

For this reason there is now a defined list of mandatory tools. Without these special tools full and proper service of Perkins engines cannot be performed.

It is Perkins intention that these mandatory tools are always available from stock. Distributors are expected to have these in their workshops, for engine types known to be in their territory. Periodical checks will occur to maintain the levels to the required standards.

Tools outside of this list may not be in stock at all times but will be supplied within lead-times quoted at the time of order.

**Tool Index**

Mandatory Tools	3
Cylinder Head	7
Fuel System	8
General Tools	9
Timing Tools	10
Cylinder Block and Crankcase	11
Crankshaft and Flywheel	12
Electronics	13
Multi Engine Family Tools	14

**Engine Tool Lists**

3.152 and 4.236 Series Tools	16
100 Series Tools	19
400 Series Tools	20
500 Series Tools	22
700 Series Tools	24
900 Series Tools	27
New 1000 Series Tools	30
1000 Series Tools	33
1103 Series Tools	37
1104 Series Tools	40
1106 Series Tools	43
2300 and 2800 Series Tools	48
1300 Series Tools	52
2000 and 3000 Series Tools	55
4000 Series Tools	59

# mandatory tools

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1100	1300	2000	2300	2800	3000	4000
21825478	Valve guide remover main tool	●	●	●		●	●	●	●	●	●	●	●				●
21825479	Adaptor, Valve guide remover	●	●	●		●	●	●		●	●	●	●				●
21825482	Inlet valve guide adaptor										●						
21825574	Centraliser, Timing cover (6 cylinder)									●	●						
21825577	Replacer, Crank front oil seal, Main tool						●	●	●	●	●						
21825578	Plate, Crank front oil seal						●	●	●	●	●						
21825579	Sleeve, Crank front oil seal						●	●	●	●	●						
21825580	Plate, Crank front oil seal						●	●	●	●	●						
21825581	Crankshaft front oil seal replacer								●	●	●						
21825607	Angle gauge, Cylinder head set screws		●			●		●	●	●	●		●				
21825620	Front oil seal protector				●												
21825621	Front oil seal protector				●												
21825623	Valve stem seal replacer				●												
21825625	Idler hub fitting tool				●												
21825626	Idler hub fitting tool				●												
21825765	Tool holder for injector sleeve face cutter and reamer																●
21825767	Cutter, Injector sleeve face																●
21825768	Reamer, Injector sleeve face																●
21825771	Remover, Injector sleeve																●
21825773	Tap, Injector sleeve remover																●
21825776	Tube expander (Pattern OCO type)																●
21825784	Sleeve, Piston replacer												●				●
21825790	Remover/replacer, Cylinder liner												●				●
21825844	Cylinder Liner Clamp												●				●
21825845	Sleeve, Piston replacer																●
21825883	Ballizer, Injector sleeve remover																●
21825901	Wrench, Governor drain												●				●
21825902	Lapping Tool, Cylinder Liner												●				●
21825918	Remover/replacer Sleeve												●				●
21825919	Wrench Plug Sleeve																●
21825920	Wrench Drive Coupling																●
21825922	Remover, Injector and Injector Sleeve												●				
21825925	Adaptor, Valve Guide Replacer							●									
21825938	Adjustable valve seat cutters						●										
21825941	Cylinder liner remover/replacer									●							
27610019	Adaptor replacer inlet valve guide										●						
27610021	Replacer Tool for Oil Seal						●										
27610029	Exhaust valve guide adaptor										●						
27610030	Valve seat and guide cutter reamer				●						●						
27610032	Timing Pin for Bosch VP30								●		●						
27610209	Tappet Chamber oil plug removal tool										●						

**Note** ● represents use with that engine

# mandatory tools

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1100	1300	2000	2300	2800	3000	4000
27610210	Tappet chamber oil plug fitting tool										●						
27610211	Crankshaft Locking pin										●						
27610212	CAM gear locating pin										●						
27610218	Piston displacement timing tool										●						
27610227	Rocker assembly removal and fitting tool										●						
2880A016	LC Governor Harness								●								
CH11148	Engine turning tool														●		
CH11149	Setting gauge, fuel injector														●		
DIAG1300	Diagnostic Software Kit											●					
GA5009	Valve Face Gauge													●			
GA5019	Valve Guide Seal Replacer													●			
GA5038	Holder, Cylinder Liner Recess Cutter													●			
GA5038-1	Cylinder Liner Recess Cutter													●			
GA5040	Location Ring													●			
GA5053	Crankshaft Bearing Remover													●			
GA5063	Small End Bush Remover/Replacer													●			
GA5091	Valve Seat Refacing Tool													●		●	
GA5100-12	Injector Sleeve Extractor													●			
GA5101-4	Core Plug Replacer Kit													●			
GA5101-8	Insert Insertion Tool													●			
GA5165	Injector Sleeve reaming/facing tool													●			
GE50003	Piston ring compressor														●		
GE50004	Alignment tool, piston cooling jets														●		
GE50008	Locator, crankshaft seal														●		
GE50009	Bolt, crankshaft seal installer														●		
GE50010	Distorter protection ring														●		
GE50011	Distorter tool														●		
GE50012	Installer, Front crankshaft seal														●		
GE50013	Installer, rear crankshaft seal														●		
GE50014	Nut														●		
GE50015	Pilot, camshaft guide														●		
GE50017	Guide, camshaft														●		
GE50019	Guide stud, camshaft gear														●		
GE50021	Remover/Installer, injector sleeve														●		
GE50026	Compressor, valve spring														●		
GE50043	Remover/Installer, valve guide														●		
GE50044	Sleeve, Valve guide														●		
GE50045	Piston ring compressor														●		
T6253/139	Piston ring compressing tool																●
T6253/146	Injector clamp and fuel feed adaptor																●
T6253/146B	Set of Spare O Rings																●

**Note** ● represents use with that engine

# mandatory tools

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1100	1300	2000	2300	2800	3000	4000
T6253/295	Piston remover (gas only)																●
VP12712	Lift bracket, cylinder head														●	●	
21825930	Fuel pump and camshaft gear remover bolts										●						
21825526	Timing Gauge, Fuel Pump (Bosch)									●							
21825908	Wrench, Injector Sleeve												●				
21825957	Puller Injector											●					
21825958	Socket, H.P pipe Nut											●					
21825960	Remover Kit, Injector Sleeve											●					
21825961	Adaptor, Injector Sleeve Puller											●					
21826012	Installer, Nozzle injector sleeve											●					
27610018	Clamp Tool						●										
27610033	Timing pin for Lucas and Stanadyne							●									
27610089	Rack position tool						●										
27610091	Special Tap											●					
27610092	Adaptor for Injector unit sleeve remover											●					
27610093	Adaptor for slide hammer											●					
27610094	Installer for injector unit sleeve											●					
27610122	Fuel Pump drive gear retaining torx screws							●	●								
T6253/241	Heinzmann PG 01 Test Unit																●
21825510	Checking gauge, Fuel pump timing							●		●							
21825512	Adaptor, Timing Gauge									●							
21825513	Adaptor, Fuel Pump Timing Gauge							●		●							
21825514	Finger, Fuel pump timing gauge							●		●							
21825515	Adaptor, Fuel pump timing (Bosch)									●							
21825624	Installer, Idler gear shaft			●													
21825949	Timing Pin											●					
21825950	Socket, Upper idler gear											●					
21825951	Socket Lower Idler gear											●					
21825952	Plunger, Timing Pin											●					
27610022	Replacer tool for idler						●										
27610025	Adaptor/remover idler hub						●										
T6253/172	Fuel Setting Tool (early engines)																●
T6253/177	Fuel Setting Tool (Later engines)																●
21825942	Adaptors, Cylinder liner remover/replacer									●							
21825947	Probe, Piston position									●							
21825954	Gauge, Piston Groove (0.090")											●					
21825955	Gauge Piston groove (0.115")											●					
21825956	Adaptor, Cylinder liner remover											●					
21825959	Kit, Liner holder											●					
27610024	Adaptor, Replacer, Cylinder liner							●									
T6253/152	Liner Extractor																●

**Note** ● represents use with that engine

# mandatory tools

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1100	1300	2000	2300	2800	3000	4000	
T6253/212	Piston Crown Handle																	●
21825540	Replacer, Crank rear oil seal							●	●	●								
21825571	Centraliser, Timing cover (3 cylinder)							●	●	●								
21825582	Adaptor, Crankshaft oil seal							●										
21825953	Installer, Front oil seal											●						

**Note** ● represents use with that engine

# cylinder head

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1103	1104	1106	2300 2800	1300	2000	3000	4000
21825478	Valve guide remover main tool	●	●	●		●	●	●	●	●	●	●	●		●	●	●	
21825479	Adaptor, Valve guide remover	●	●	●		●	●	●	●	●	●	●	●		●	●	●	
21825496	Gauge, Piston height and Valve head height	●	●	●		●	●	●	●	●	●	●	●		●	●	●	
21825607	Angle gauge, Cylinder head set screws		●			●	●	●	●	●	●	●	●			●		
21825666	Compressor, Valve springs	●	●	●		●	●	●	●	●	●	●	●		●	●	●	
21825740	Adaptor, Valve spring compressor																●	
21825741	Adaptor, Valve spring compressor																●	
21825742	Adaptor, Valve spring compressor															●		
21825743	Adaptor, Valve spring compressor															●		
21825925	Adaptor, Valve guide replacer							●										
21825927	Adaptor, Valve spring compressor	●	●															
21825928	Adaptor, Valve spring compressor	●	●			●												
21825931	Adaptor, Valve spring compressor							●	●	●	●	●	●					
21825932	Adaptor, Valve spring compressor					●			●	●	●	●	●					
21825933	Adaptor, Valve spring compressor		●							●								
27610016	Adaptor, Valve spring compressor						●											
27610019	Adaptor replacer inlet valve guide							●					●					
27610030	Set of combined reamer/cutters				●			●		●	●	●	●					
T6253/156	Injector Bush Coning Tool																	●
T6253/240	Valve Seat Grinder Kit																	●
T85002/3	Valve Guide Inserting Tool																	●
T85002/14B	Injector Bush Depth Gauge																	●
T85002/2	Injector Bush Inserting Tool																	●
T85002/7	Injector Bush Facing Cutter																	●
T85002/58	Injector Bush Expanding Tool (upper)																	●
T85002/6	Injector Bush Expanding Tool (lower)																	●
27610223	Exhaust Manifold locating handle																	
27610226	Coolant Thermostat valve assembly tool									●	●							
27610227	Rocker assembly removal and fitting tool									●	●							
GE50015	Pilot, camshaft guide													●				
GE50016	Alignment sleeve, camshaft guide													●				
GE50017	Guide, camshaft													●				
GE50018	Cradle, camshaft													●				
GE50019	Guide stud, camshaft gear													●				
GE50025	Lifting hook, camshaft													●				
GE50026	Compressor, valve spring													●				
GE50027	Installer, valve guide seal													●				
GE50043	Remover/installer, valve guide													●				
GE50044	Sleeve, valve guide													●				
VP12712	Lift bracket, cylinder head													●				
21825663	Valve spring remover				●													
21825623	Valve stem seal replacer				●													
CH11149	Setting gauge, fuel injector													●				
27610234	Inlet and outlet valve guide adaptor									●	●							
27610235	Setscrew adaptor									●	●							
27610029	Exhaust valve guide adaptor							●					●					
21825482	Adaptor, valve guide replacer								●				●					
21825587	Camshaft retainer					●												
21825593	Replacer, camshaft front oil seal					●												
21825595	Replacer, camshaft rear oil seal					●												
21825614	Replacer, crankshaft rear oil seal					●												
21825586	Camshaft clamps (set of 3)					●												
21825938	Adjustable valve seat cutters						●											
21825934	Adaptor, valve spring compressor							●										

**Note** ● represents use with that engine



# fuel system

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1103	1104	1106	2300 2800	1300	2000	3000	4000
21825528	Injector Analyser	●	●	●		●		●		●								
21825590	Adaptor, Injector remover (Bosch)					●												
21825591	Adaptor, Injector remover (CAV)					●												
21825608	Fuel pump, nut wrench									●								
21825611	Wrench, Fuel pump solenoid	●	●			●		●	●	●								
21825765	Tool holder for Injector sleeve face cutter and reamer																●	
21825767	Cutter, Injector sleeve face																●	
21825768	Reamer, Injector sleeve face																●	
21825771	Remover, Injector sleeve																●	
21825773	Tap, Injector sleeve remover																●	
21825776	Tube expander (Pattern 'C' type)																●	
21825854	Adaptor kit, Injector remover																●	
21825883	Ballizer, Injector sleeve																●	
21825901	Wrench, Governor drain																●	
21825908	Wrench, Injector sleeve															●		
21825909	Cleaning tool, Injector seats sleeve															●		
21825914	Remover Injector															●		
21825918	Wrench, spark plug sleeve															●		
21825919	Wrench, spark plug sleeve																●	
21825920	Wrench, Drive coupling																●	
21825922	Remover, Injector and Injector sleeve															●		
21825947	Probe, Piston position									●								
21825957	Puller, Injector														●			
21825958	Socket, HP pipe nut														●			
21825960	Remover kit, Injector sleeve														●			
21825961	Adaptor, Injector sleeve puller														●			
21826012	Installer, Nozzle injector sleeve														●			
27610018	Clamp tool							●										
27610033	Timing pin for Lucas and Stanadyne							●	●									
27610089	Rack position tool							●										
27610091	Special Tap															●		
27610092	Adaptor for injector unit sleeve remover															●		
27610093	Adaptor for slide hammer															●		
27610094	Installer for injector unit sleeve															●		
27610095	Installer for injector unit seals															●		
27610122	Fuel pump drive gear retaining torx screws							●	●									
T6253/241	Heinzmann PG 01 Test Unit																	●
27610248	Bosch EPVE fuel pump timing adaptor										●	●						
GE50021	Remover/installer, injector sleeve													●				
21825680	Fuel pump spill pipe				●													
21825964	Spanner for flange nuts of Bosch fuel injection pump												●					
27610032	Timing pin for Bosch VP30 fuel injection pump								●		●	●						

**Note** ● represents use with that engine

# general tools

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1103	1104	1106	2300 2800	1300	2000	3000	4000
21825565	Remover/FIP gear and cam gear		●					●		●			●					
21825589	Slide hammer Main Tool					●	●											
21825617	Dial gauge	●	●	●		●	●	●	●	●	●	●		●		●	●	●
21825639	Driving Handle						●			●						●	●	
21825849	Slide hammer															●	●	
SE253	Engine Turning Tool																	●
27610230	FEOS removal tool twin/triple puller										●	●						
CH11148	Engine Turning Tool													●				
GE50020	Impact socket													●				
GE50022	Brush, large bore													●				
GE50023	Brush, small tapered													●				
GE50024	Brush, small bore													●				
GE50028	Vacuum pump													●				
GE50029	Vacuum pump bottle													●				
GE50030	Vacuum pump tube													●				
GE50031	Pressurising pump, coolant system													●				
GE50032	Thermometer, coolant temperature													●				
GE50033	Pressure gauge													●				

**Note** ● represents use with that engine

# timing tools

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1103	1104	1106	2300 2800	1300	2000	3000	4000
21825510	Checking gauge, Fuel pump timing	●	●					●		●								
21825511	Adaptor spacer, Timing gauge	●	●															
21825512	Adaptor, Timing gauge		●							●								
21825513	Adaptor, Fuel pump timing gauge		●					●		●								
21825514	Finger, Fuel pump timing gauge	●	●						●	●								
21825515	Adaptor, Fuel pump timing (Bosch)									●								
21825526	Timing gauge, Fuel pump (Bosch)					●				●								
21825588	Location pins, valve timing					●												
21825930	Fuel pump and camshaft gear remover bolts	●	●						●	●			●					
21825949	Timing Pin																	●
21825950	Socket, Upper idler gear																	●
21825951	Socket, Lower idler gear																	●
21825952	Plunger, Timing pin																	●
27610021	Replacer tool for idler gear hub						●											
27610025	Adaptor/remover Idler hub						●											
T6253/146A	Injector Clamp and Fuel Feed Adaptor																	●
T6253/146B	Set of Spare O rings																	●
T6253/172	Fuel Setting Tool (early engines)																	●
T6253/177	Fuel Setting Tool (later engines)																	●
27610211	Crankshaft Locking pin										●	●						
27610212	CAM gear locating PIN										●	●						
27610216	Tool locating timing case										●	●						
27610218	Piston displacement timing tool												●					
27610224	Balancer fitting pin																	
27610225	Balancer locking pin										●	●						

**Note** ● represents use with that engine

# cylinder block and crankcase

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1103	1104	1106	2300 2800	1300	2000	3000	4000
21825624	Installer, Idler gear shaft			●														
21825625	Installer, Idler gear shaft			●	●													
21825626	Installer, Idler gear shaft			●	●													
21825544	Adaptor, Remover/replacer, Cylinder liner	●	●															
21825784	Sleeve, piston replacer															●		
21825790	Remover/replacer, Cylinder liner															●	●	
21825809	Guide stud, flywheel to crankshaft																●	
21825844	Distance piece, cylinder liner clamp															●	●	
21825845	Sleeve, piston replacer																●	
21825902	Lapping tool, cylinder liner															●	●	
21825941	Adaptors, Cylinder liner remover/replacer									●								
21825942	Adaptors, Cylinder liner remover/replacer									●								
21825954	Gauge, Piston groove (0.090≤)															●		
21825955	Gauge, Piston groove (0.115≤)															●		
21825956	Adaptor, Cylinder liner remover															●		
21825959	Kit, Liner holding															●		
27610013	Rubber strip seal installer						●											
27610024	Adaptor, Replacer, cylinder liner							●										
T6253/139	Piston Ring Compressing Tool																	●
T6253/152	Liner Extractor																	●
T6253/212	Piston Crown Handle																	●
27610209	Tappet Chamber oil plug removal tool												●					
27610210	Tappet Chamber oil plug fitting tool												●					
GE50000	Installer, cylinder liner															●		
GE50001	Remover, cylinder liner															●		
GE50002	Height tool, cylinder liner projection															●		
GE50003	Piston ring compressor															●		
GE50004	Alignment tool, piston cooling jets															●		
GE50005	Clamp bolt, cylinder liner (26 required)															●		
GE50006	Washer (26 required)															●		
GE50007	Fibre washer (26 required)															●		
GE50045	Piston ring compressor															●		
21825543	Remover/replacer for cylinder liner												●					
21825563	Adaptors, cylinder liner remover/replacer												●					
21825583	Adaptor for water immersion seal												●					
21825615	Replacer tool for pistons												●					
27610031	Coolant pump, oil seal replacer tool												●					
21825491	Replacer tool for pistons										●	●						

**Note** ● represents use with that engine

# crankshaft and flywheel

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1103	1104	1106	2300 2800	1300	2000	3000	4000
21825540	Replacer, Crank rear oil seal	●	●					●	●	●								
21825571	Centraliser, Timing cover (3 cylinder)	●						●										
21825574	Centraliser, Timing cover (6 cylinder)									●			●					
21825577	Replacer, Crank front oil seal, Main Tool	●	●				●	●	●	●	●	●	●					
21825578	Pressure plate, crank front oil seal	●	●				●	●	●	●	●	●	●					
21825579	Sleeve, Crank front oil seal	●	●				●	●	●	●			●					
21825580	Fastener plate, crank front oil seal		●						●	●	●	●	●					
21825581	Crankshaft front oil seal replacer		●						●	●			●					
21825582	Adaptor, Crankshaft oil seal	●						●										
21825807	Spanner, Crankshaft hub nut																●	
21825936	Centraliser, Timing cover (4 cylinder)		●						●	●								
21825953	Installer, front oil seal															●		
21825963	Installer, rear oil seal															●		
21825965	Remover, Crank pulley															●		
27610022	Replacer Tool for Oil Seal						●											
27610026	Adaptor, main tool to crankshaft nose						●											
27610027	Adaptor for Front Oil Seal						●											
27610096	Locking pin for crankshaft							●	●									
T6253/140	Rear Oil Seal Insertion Kit																	●
T6253/141	Front Oil Seal Insertion Kit (4006)																	●
T6253/141A	Front Oil Seal Insertion Kit (4008)																	●
T6253/209	Crankshaft Pulley Extractor																	●
27610217	FEOS fitting tool										●	●						
27610233	Big end bearing fitment																	
21825576	Crankshaft Rotating adaptor												●					
GE50008	Locater, crankshaft seal													●				
GE50009	Bolt, crankshaft seal installer													●				
GE50010	Distorter protection ring													●				
GE50011	Distorter tool													●				
GE50012	Installer, front crankshaft seal													●				
GE50013	Installer, rear crankshaft seal													●				
GE50014	Nut (use with GE50008)													●				
21825619	Crankshaft pulley remover				●													
21825620	Front oil seal protector (403C-11)				●													
21825621	Front oil seal protector (403C-15 and 404C-22)				●													
T85316/1	Front oil seal insertion kit																	●

**Note** ● represents use with that engine

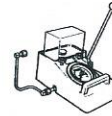
# electronics

Part Number	Description	3.152	4.236	100	400	500	700	900	New 1000	1000	1103	1104	1106	2300 2800	1300	2000	3000	4000
27610164	TIPSS Communication Adaptor Kit											●	●	●				
27610187	Hand Held Diagnostic Tool											●	●	●				
2900A504	MIC breakout T											●	●					
U5MK0662	Wire Harness Repair kit											●	●					
U5MK0668	Power up harness											●	●					

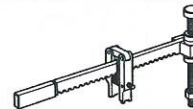
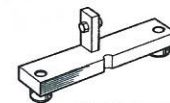
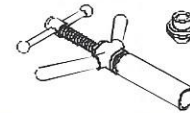
**Note** ● represents use with that engine

## multi engine family tools

Fuel System		
Part Number	Description	Use with
21825528	Injector analyser  <i>Not kept in stock</i>	3.152, 4.236, 100, 500, 900, 1000



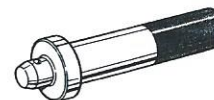
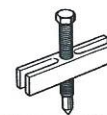
Cylinder Head		
Part Number	Description	Use with
21825478	Valve guide remover, main tool	All engines except 4000, 2300, 2800, 400
21825479	Adaptor, valve guide remover/ replacer	All engines except New 1000, 4000, 2300 2800, 400
21825496	Gauge, piston height and valve head height  <i>use with 21825617</i>	All engines except 4000, 2300, 2800, 400
21825666	Compressor, valve springs	All engines except 4000, 2300, 2800, 400







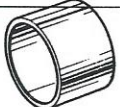
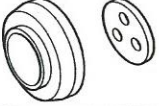
Timing Tools		
Part Number	Description	Use with
21825510	Checking gauge, fuel pump timing	3.152, 4.236, 900, 1000 and old engines



General Tools		
Part Number	Description	Use with
21825565	Remover/FIP gear and cam gear	4.236, 900, 1000, 1106
21825617	Dial gauge	All engines except 400, 2300, 2800
21825639	Driving handle	700, 1000, 2000, 3000




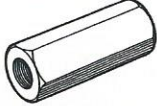

## multi engine family tools

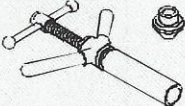
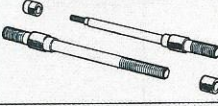
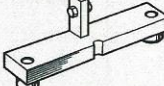

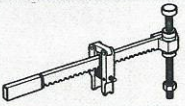
Crankshaft and Flywheel			
Part Number	Description	Use with	
21825540	Replacer, crank rear oil seal	3.152, 4.236, 900, 1000, New 1000	
21825571	Centraliser, timing cover (3 cylinder)	3.152, 900	
21825577	Replacer, crank front oil seal, main tool	3.152, 4.236, 700, 900, 1000, New 1000, 1103 1104, 1106	
21825578	Plate, crank rear oil seal  <i>use with 21825577</i>	3.152, 4.236, 700, 900, 1000, New 1000, 1103, 1104, 1106	
21825579	Sleeve, crank rear oil seal  <i>use with 21825577</i>	3.152, 4.236, 700, 900, 1000, New 1000, 1106	
21825936	Centraliser, timing cover (4 cylinder)	4.236, 1000, New 1000	


Multi Engine tools should be used with the engine families as shown in the 'use with' column. The tools that it should be used with are given in the description column.



## 3.152 and 4.236 Series

Cylinder Head			
Part Number	Description	Use with	
21825927	Adaptor, valve spring compressor	21825666	
21825928	Adaptor, valve spring compressor <i>Also 500</i>	21825666	
21825933	Adaptor, valve spring compressor (4.236 only) <i>Also 1000</i>	21825666	

Multi tools used on 3.152 and 4.236 Series - tools used on several engine types			
Part Number	Description	Use with	
21825478	Valve guide remover main tool #		
21825479	Adaptor, valve guide remover #		
21825496	Gauge, piston height and valve head height #	21825617	
21825607	Angle gauge (4.236 only) #2		
21825666	Valve springs compressor #		

Cylinder Block and Crankcase			
Part Number	Description	Use with	
21825544	Adaptors, cylinder liner remover/replacer	21825543	


Tool board key:  
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#1 found on tool board 27610097

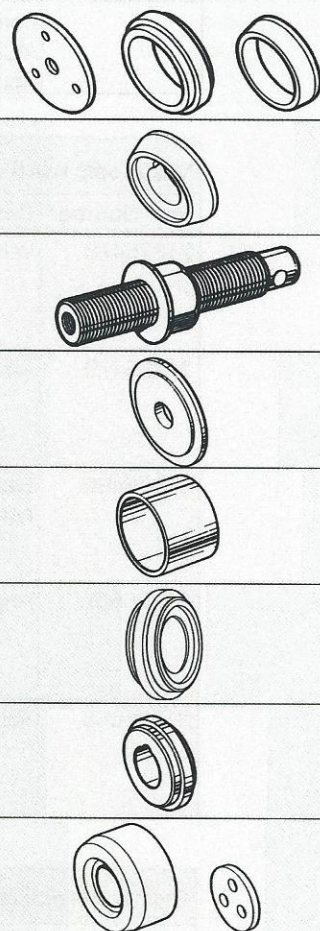
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## 3.152 and 4.236 Series

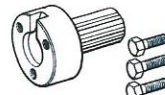
Crankshaft and Flywheel		
Part Number	Description	Use with
21825580	Plate, Crank front oil seal (4.236 only) <i>Also 1000, New 1000, 1103, 1104 and 1106</i>	21825577



Multi tools used on 3.152 and 4.236 Series - tools used on several engine types		
Part Number	Description	Use with
21825540	Replacer, crank rear oil seal #	
21825571	Centraliser, timing cover (3.152 only) #	
21825577	Replacer, crank front oil seal, main tool #	
21825578	Replacer, crank rear oil seal, main tool #	
21825579	Sleeve, crank rear oil seal #	21825577
21825581	Crankshaft, front oil seal replacer	21825577
21825582	Adaptor, crankshaft oil seal (3.152 only) #1	21825577
21825936	Centraliser, timing cover (4 cylinder) #	



Timing Tools		
Part Number	Description	Use with
21825511	Adaptor spacer, timing gauge	21825510



Tool board key:

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## 3.152 and 4.236 Series

Multi tools used on 3.152 and 4.236 Series - tools used on several engine types			
Part Number	Description	Use with	
21825510	Checking gauge, fuel pump timing #		
21825512	Adaptor, timing gauge (4.236 only) #2	21825510	
21825513	Adaptor, fuel pump timing gauge (4.236 only) #1		
21825514	Finger, fuel pump timing gauge #2	21825510	
21825930	Fuel pump and camshaft Gear remover bolt #2	21825510	

Fuel System			
Part Number	Description	Use with	
21825611	Wrench, fuel pump solenoid #2 <i>Also 500, 900, New 1000 and 1000</i>		

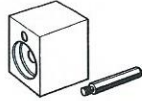
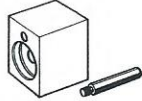
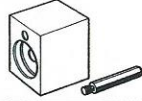
Multi tools used on 3.152 and 4.236 Series - tools used on several engine types			
Part Number	Description	Use with	
21825565	Remover/FIP gear and cam gear #		
21815617	Dial gauge #		
21825528	Injector analyser #		

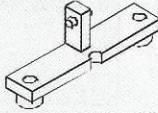
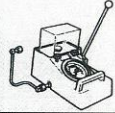

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# 100 Series

Cylinder Block and Crankcase			
Part Number	Description	Use with	
21825624	Installer, idler gear shaft		
21825625	Installer, idler gear shaft <i>Also 400</i>		
21825626	Installer, idler gear shaft <i>Also 400</i>		


Multi tools used on 100 Series - tools used on several engine types			
Part Number	Description	Use with	
21825496	Gauge, piston height and valve head height #	21825617	
21825528	Injector analyser #		
21825617	Dial gauge #		

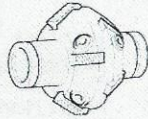
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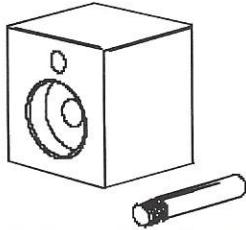
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# 400 Series

Cylinder Head			
Part Number	Description	Use with	
21825663	Valve spring remover		
21825623	Valve stem seal replacer		

Multi Engine Tools used on 400 Series - tools used on several engine types			
Part Number	Description	Use with	
27610030	Valve seat and guide cutter reamer #1		

Fuel System			
Part Number	Description	Use with	
21825680	Fuel pump spill pipe		

Cylinder Block and Crankcase			
Part Number	Description	Use with	
21825625	Installer, idler gear shaft (403C-11)  <i>Also 100</i>		
21825626	Installer, idler gearshaft (403C-15 and 404C-22)  <i>Also 100</i>		

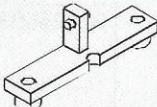
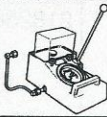

**Tool board key:**


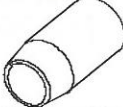
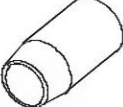
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# 400 Series

Multi tools used on 400 Series - tools used on several engine types			
Part Number	Description	Use with	
21825496	Gauge, piston height and valve head height #	21825617	
21825528	Injector analyser #		
21825617	Dial gauge #		

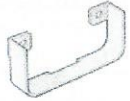



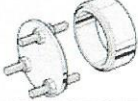

Crankshaft and Flywheel			
Part Number	Description	Use with	
21825619	Crankshaft pulley remover		
21825620	Front oil seal protector (403C-11)		
21825621	Front oil seal protector (403C-15 and 404C-22)		

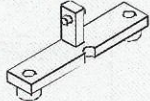

Tool board key:



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Cylinder Head			
Part Number	Description	Use with	
21825587	Camshaft retainer  <i>Not on tool board</i>		
21825928	Adaptor, valve spring compressor Also 4.236 and 3.152	21825666	
21825593	Replacer, camshaft front oil seal  <i>Not on tool board</i>		
21825595	Replacer, camshaft rear oil seal  <i>Not on tool board</i>		
21825614	Replacer, crankshaft rear oil seal  <i>Not on tool board</i>		
21825586	Camshaft clamps (set of 3)  <i>Not on tool board</i>		

Multi tools used on 500 Series - tools used on several engine types			
Part Number	Description	Use with	
21825496	Gauge, piston height and valve head height #		
21825607	Angle gauge #2		

Fuel System			
Part Number	Description	Use with	
21825590	Adaptor, injector remover (Bosch)	21825589	
21825591	Adaptor, injector remover (CAV)		

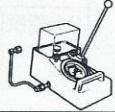
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# 500 Series


## Multi Engine Tools used on 500 Series - tools used on several engine types

Part Number	Description	Use with	
21825528	Injector analyser #		



## General Tools

Part Number	Description	Use with	
21825589	Slide hammer main tool  <i>Also 700</i>		

## Multi Engine Tools used on 500 Series - tools used on several engine types

Part Number	Description	Use with	
21825617	Dial gauge #		

## Timing Tools

Part Number	Description	Use with	
21825588	Location pins, valve timing		
21825526	Timing gauge, fuel pump Bosch	21825510	

Some tools are used with the 500 Series and the 1000 Series these tools are found in the 1000 Series section.




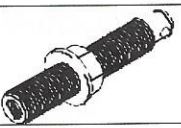
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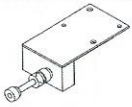
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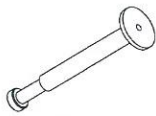


# 700 Series

Crankshaft and Flywheel			
Part Number	Description	Use with	
27610022	Replacer tool for oil seal	21825639	
27610026	Adaptor, main tool to crankshaft nose	21825577	
27610027	Adaptor for front oil seal	21825577	
21825577	Replace, crank front oil seal main tool. Also 3.152, 4.236, 900, New 1000, 1000, 1103, 1104 and 1106		

Multi tools used on 700 Series - tools used on several engine types			
Part Number	Description	Use with	
21825578	Replacer, front oil seal, main tool #	21825577	
21825579	Sleeve, crank front oil seal #	21825577	

Fuel System			
Part Number	Description	Use with	
27610018	Clamp tool  <i>(Not for resale)</i>		
27610089	Rack position tool  <i>(Not for resale)</i>	27610018	


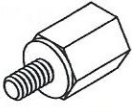
Cylinder Block and Crankcase			
Part Number	Description	Use with	
27610013	Rubber strip seal installer		



Tool board key:  
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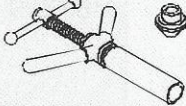

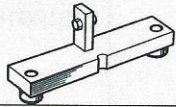
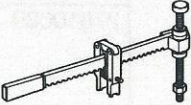
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# 700 Series

Timing Tools			
Part Number	Description	Use with	
27610021	Replacer tool for idler gear hub	21825639	
27610025	Adaptor/remover Idler hub	21825589	

Cylinder Head			
Part Number	Description	Use with	
27610016	Adaptor valve spring compressor	21825666	
21825938	Adjustable valve seat cutters <i>Not on tool board</i>		


Multi tools used on 700 Series - tools used on several engine types			
Part Number	Description	Use with	
21825478	Valve guide remover main tool #		
21825479	Adaptor, valve guide remover #		
21825496	Gauge, piston height and valve head height #	21825617	
21825666	Valve springs compressor #		

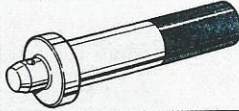

Tool board key:  
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# 700 Series

General Tools			
Part Number	Description	Use with	
21825589	Slide hammer Main tool #2  <i>Also 500</i>		

Multi Tools used on 700 Series - tools used on several engine types			
Part Number	Description	Use with	
21825639	Driving handle	27610022 27610025	
21825617	Dial gauge #		

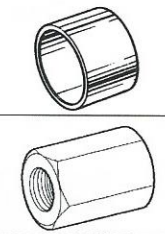
Some Tools for the 700 Series are also used with other engine families, these tools are located with these other families.

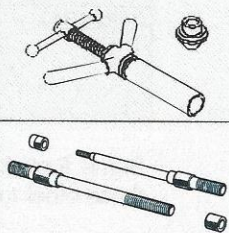
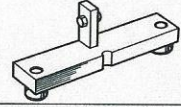
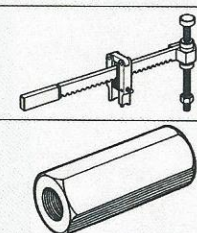

Tool board key:  
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# 900 Series

Cylinder Head			
Part Number	Description	Use with	
21825925	Adaptor, valve guide replacer	21825478	
21825934	Adaptor, valve spring compressor <i>(not on tool board)</i>	21825666	

Multi tools used on 900 Series - tools used on several engine types			
Part Number	Description	Use with	
21825478	Valve guide remover #		
21825479	Adaptor, valve guide remover #		
21825496	Gauge, piston height and valve head height #	21825617	
21825607	Angle gauge #2		
21825666	Valve springs compressor #		
21825928	Adaptor, valve spring compressor #2		
21825932	Adaptor, valve spring compressor #2	21825666	


**Tool board key:**

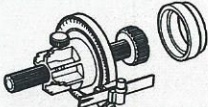


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# 900 Series

Timing Tools			
Part Number	Description	Use with	
21825513	Adaptor, Fuel pump timing gauge  Also 4.236 and 1000 Series		

Multi tools used on 900 Series - tools used on several engine types			
Part Number	Description	Use with	
21825510	Checking gauge, fuel pump timing #		
21825565	Remover/FIP gear and cam gear #		
21825617	Dial gauge #		

Crankshaft and Flywheel			
Part Number	Description	Use with	
21825582	Adaptor, crankshaft oil seal  Also 3.152	21825577	
27610096	Locking pin for crankshaft  Also New 1000		



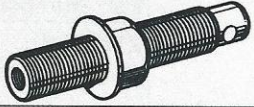


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# 900 Series

Multi tools used on 900 Series - tools used on several engine types			
Part Number	Description	Use with	
21825540	Replacer, crank rear oil seal #		
21825571	Centraliser, timing cover (3 cylinder) #		
21825577	Replacer, crank front oil seal, main tool #		
21825578	Replacer, front oil seal #	21825577	
21825579	Sleeve, crank rear oil seal #	21825577	

Cylinder Block and Crankcase			
Part Number	Description	Use with	
27610024	Adaptor, replacer, cylinder liner		

Some tools for the 900 Series are also used with other engine families, these tools are located with these other families.


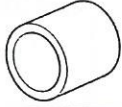

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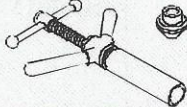
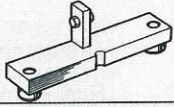

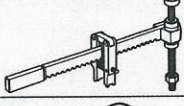
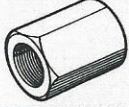
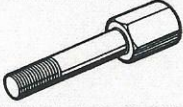
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# New 1000 Series

Cylinder Head			
Part Number	Description	Use with	
27610019	Adaptor replacer inlet valve guide <i>Also 1106</i>	21825478	
27610029	Exhaust valve guide adaptor replacer <i>Also 1106</i>	21825478	
27610030	Set of combined reamer/cutters for valve guides and seats <i>Also 400, 1103, 1104 and 1106</i>		

Multi tools used on New 1000 Series - tools used on several engine types			
Part Number	Description	Use with	
21825478	Valve guide remover, main tool #		
21825496	Gauge, piston height and valve head height #	21825617	
21825607	Angle gauge #2		
21825666	Valve springs compressor #		
21825931	Adaptor, valve spring compressor #2	21825666	
21825932	Adaptor, valve spring compressor #2	21825666	


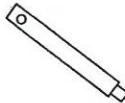

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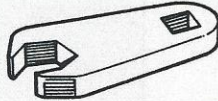
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# New 1000 Series

Fuel System			
Part Number	Description	Use with	
27610032	Timing pin for Bosch  <i>Also 1104 and 1106</i>		
27610033	Timing pin for Lucas and Stanadyne		
27610122	Fuel pump drive gear retaining torx screws Not on toolboard <i>(Not for resale) Also 900</i>		

Multi tools used on New 1000 Series - tools used on several engine types			
Part Number	Description	Use with	
21825611	Wrench, fuel pump solenoid #2		

Crankshaft and Flywheel			
Part Number	Description	Use with	
21825581	Crankshaft front oil seal replacer  Not on tool board <i>Also 4.236, 1000 and 1106</i>	21825577	

**Tool board key:**


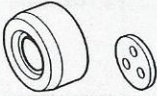
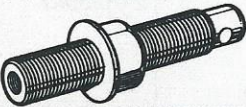


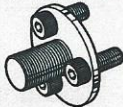
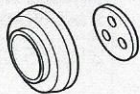

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# New 1000 Series

Multi tools used on New 1000 Series - tools used on several engine types			
Part Number	Description	Use with	
21825540	Replacer, crank rear oil seal #		
21825574	Centraliser, timing cover (6 cylinder) #2		
21825577	Replacer, crank front oil seal, main tool #		
21825578	Replacer, crank rear oil seal, main tool #		
21825579	Sleeve, crank rear oil seal #	21825577	
21825580	Plate, crank front oil seal #2	21825577	
21825936	Centraliser, timing cover (4 cylinder) #		
21825617	Dial gauge #		

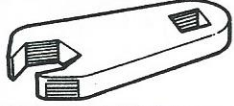

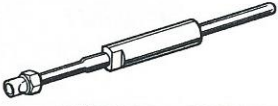
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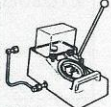
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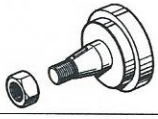




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# 1000 Series

Fuel System			
Part Number	Description	Use with	
21825611	Wrench, fuel pump solenoid <i>Also 3.152, 4.236, 500, 900, New 1000</i>		
21825608	Fuel pump, nut wrench		
21825947	Probe, piston position #2		

Multi Engine Tools used on 1000 Series - tools used on several engine types			
Part Number	Description	Use with	
21825528	Injector analyser # <i>(Not kept in stock)</i>		

Timing Tools			
Part Number	Description	Use with	
21825512	Adaptor, timing gauge <i>Also 4.236</i>	21825510	
21825514	Finger, fuel pump timing gauge <i>Also 3.152, 4.236, New 1000</i>	21825510	
21825515	Adaptor, fuel pump timing (Bosch)	21825510	
21825526	Timing gauge, fuel pump (Bosch) <i>Also 500 Series</i>	21825510	
21825930	Fuel pump and camshaft gear remover bolts <i>Also 3.152, 4.236, New 1000 and 1106</i>	21825510	

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# 1000 Series

Multi tools used on 1000 Series - tools used on several engine types			
Part Number	Description	Use with	
21825510	Checking gauge, fuel pump timing #		
21825513	Adaptor, fuel pump timing gauge #1		
21825639	Driving handle	27610022 27610025	

Cylinder Head			
Part Number	Description	Use with	
21825607	Angle gauge, cylinder head set screws #2 Also for 4.236, 500, 900, New 1000, 2000, 1103, 1104 and 1106		
21825931	Adaptor, Valve spring compressor #2 Also New 1000, 1103, 1104 and 1106	21825666	
21825932	Adaptor, Valve spring compressor #2  Also 500 and 1106	21825666	
21825482	Adaptor, valve guide replacer  Not on tool board Also 1106		

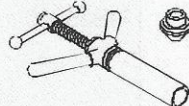

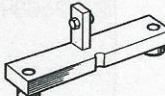
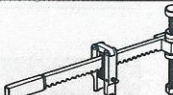



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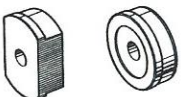

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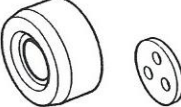
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# 1000 Series

Multi tools used on 1000 Series - tools used on several engine types			
Part Number	Description	Use with	
21825478	Valve guide remover main tool #		
21825479	Adaptor, valve guide remover #		
21825496	Gauge, piston height and valve head height #	21825617	
21825666	Valve springs compressor #		
21825933	Adaptor, valve spring compressor #2	21825666	
21825565	Remover/FIP gear and cam gear #		
21825617	Dial gauge #		

Cylinder Block and Crankcase			
Part Number	Description	Use with	
21825941	Adaptors, cylinder liner remover/replacer	21825543	
21825942	Adaptors, cylinder liner remover/replacer	21825543	


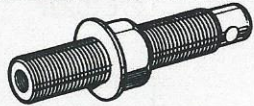


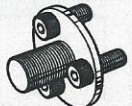


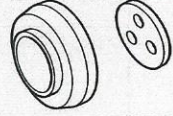
Crankshaft and Flywheel			
Part Number	Description	Use with	
21825574	Centraliser, timing cover (6 cylinder)  Also 1106		

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Multi tools used on 1000 Series - tools used on several engine types			
Part Number	Description	Use with	
21825540	Replacer, crank rear oil seal #		
21825577	Replacer, crank front oil seal, main tool #		
21825578	Replacer, crank rear oil seal, main tool #		
21825579	Sleeve, crank rear oil seal #	21825577	
21825580	Plate, crank front oil seal #2	21825577	
21825581	Crankshaft, front oil seal replacer	21825577	
21825582	Adaptor, crankshaft oil seal #1	21825577	
21825936	Centraliser, timing cover (4 cylinder) #		

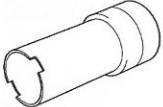
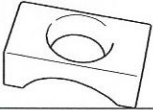



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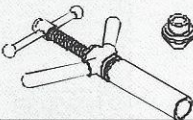

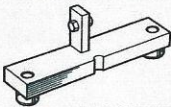

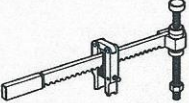

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# 1103 Series


Cylinder Head			
Part Number	Description	Use with	
27610226	Coolant thermostat valve assembly tool  <i>Also 1104</i>		
27610227	Rocker assembly removal and fitting tool  <i>Also 1104</i>		
27610234	Inlet and outlet valve guide adaptor  <i>Also 1104</i>	21825478	
27610235	Setscrew adaptor  <i>Also 1104</i>	21825666	
21825931	Adaptor, valve spring compressor  <i>Also New 1000, 1000, 1104 1106</i>	21825666	

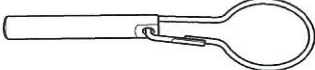
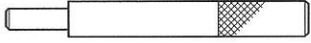

Multi tools used on 1103 Series - tools used on several engine types			
Part Number	Description	Use with	
21825478	Valve guide remover main tool #		
21825479	Adaptor, valve guide remover #	21825478	
21825496	Gauge, piston height and valve head height #	21825617	
21825607	Angle gauge, cylinder head set screws #2		
21825666	Compressor, valve springs #		
27610030	Set of combined reamer/cutters #1  <i>Also 400, New 1000, 1104 and 1106</i>		


# 1103 Series

Fuel System			
Part Number	Description	Use with	NO PICTURE
27610248	Bosch EPVE fuel pump timing adaptor  <i>Also 1104</i>		



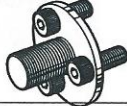

General Tools			
Part Number	Description	Use with	
27610230	FEOS removal tool twin/triple puller  <i>Also 1104</i>		

Multi tools used on 1103 Series - tools used on several engine types			
Part Number	Description	Use with	
21825617	Dial gauge #	21825496	

Timing Tools			
Part Number	Description	Use with	
27610211	Crankshaft locking pin  <i>Also 1104</i>		
27610212	CAM gear locating pin  <i>Also 1104</i>		
27610216	Tool locating timing case  <i>Also 1104</i>		
27610225	Balancer locking pin  <i>Also 1104</i>		NO PICTURE


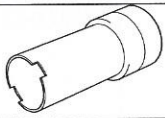



Cylinder Block and Crankcase			
Part Number	Description	Use with	
21825491	Replacer tool for pistons  <i>Also 1104</i>		

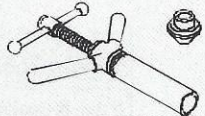
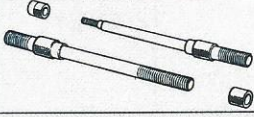
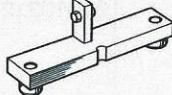

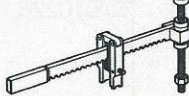

# 1103 Series

Crankshaft and Flywheel			
Part Number	Description	Use with	
21825577	Replacer, crank front oil seal, main tool <i>Also 3.152, 4.236, 700, 900, New 1000, 1000, 1104 and 1106</i>		
21825578	Pressure plate, crank front oil seal <i>Also 3.152, 4.236, 700, 900, New 1000, 1000, 1104 and 1106</i>	21825577	
21825580	Fastener plate, crank front oil seal <i>Also 4.236, New 1000, 1000, 1104 and 1106</i>	21825577	
27610217	FEOS fitting tool  <i>Also 1104</i>	21825577	



# 1104 Series

Cylinder Head			
Part Number	Description	Use with	
21825931	Adaptor, valve spring compressor #2	21825666	
27610226	Coolant thermostat valve assembly tool <i>Also 1103</i>		
27610227	Rocker assembly removal and fitting tool <i>Also 1103</i>		
27610234	Inlet and outlet valve guide adaptor <i>Also 1103</i>	21825478	
27610235	Setscrew adaptor <i>Also 1103</i>	21825666	

Multi tools used on 1104 Series - tools used on several engine types			
Part Number	Description	Use with	
21825478	Valve guide remover main tool #		
21825479	Adaptor, valve guide remover #	21825478	
21825496	Gauge, piston height and valve head height #	21825617	
21825607	Angle gauge, cylinder head set screws #2		
21825666	Compressor, valve springs #		
27610030	Set of combined reamer/cutters #1		

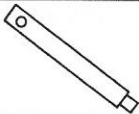
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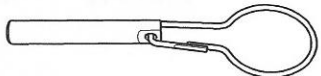
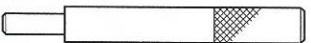
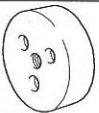
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# 1104 Series

Fuel System			
Part Number	Description	Use with	
27610248	Bosch EPVE fuel pump timing adaptor <i>Also 1103</i>		NO PICTURE 
27610032	Timing pin for Bosch VP30 fuel injection pump <i>Also New 1000 and 1106</i>		

General Tools			
Part Number	Description	Use with	
27610230	FEOS removal tool twin/triple puller <i>Also 1103</i>		

Multi tools used on 1104 Series - tools used on several engine types			
Part Number	Description	Use with	
21825617	Dial gauge #	21825496	


Timing Tools			
Part Number	Description	Use with	
27610211	Crankshaft locking pin <i>Also 1103</i>		
27610212	CAM gear locating pin <i>Also 1103</i>		
27610216	Tool locating timing case <i>Also 1103</i>		
27610225	Balancer locking pin <i>Also 1103</i>		NO PICTURE



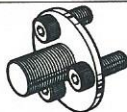

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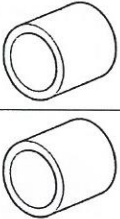
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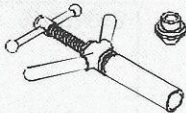
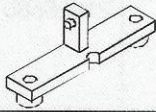


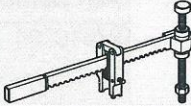



Cylinder Block and Crankcase			
Part Number	Description	Use with	
21825491	Replacer tool for pistons  <i>Also 1103</i>		

Crankshaft and Flywheel			
Part Number	Description	Use with	
21825577	Replacer, crank front oil seal, main tool <i>Also 3.152, 4.236, 700, 900, New 1000, 1000, 1103 and 1106</i>		
21825578	Fastener plate, crank front oil seal <i>Also 3.152, 4.236, 700, 900, New 1000, 1000, 1103 and 1106</i>	21825577	
21825580	Fastener plate, crank front oil seal <i>Also 4.236, New 1000, 1000, 1103 and 1106</i>	21825577	
27610217	FEOS fitting tool  <i>Also 1103</i>	21825577	

Electronics - Multi tools used on 1104 Series - tools used on several engine types			
Part Number	Description	Use with	
27610164	TIPSS communication adaptor kit		NO PICTURE
27610187	Hand held diagnostic tool		NO PICTURE
2900A504	MIC breakout T		NO PICTURE
U5MK0662	Wire harness repair kit		NO PICTURE
U5MK0668	Power up harness		NO PICTURE

# 1106 Series

Cylinder Head			
Part Number	Description	Use with	
21825482	Inlet valve guide adaptor	21825478	
27610029	Exhaust valve guide adaptor	21825478	

Multi-tools used on 1106 Series - tools used on several engine types			
Part Number	Description	Use with	
21825478	Valve guide remover tool #		
21825496	Gauge, piston height and valve head height #	21825617	
27610019	Adaptor replacer inlet valve guide #1		
21825607	Angle gauge, cylinder head set screws #2		
21825666	Compressor, valve springs #		
21825931	Adaptor, valve spring compressor #2	21825666	
21825932	Adaptor, valve spring compressor #2		
27610030	Set of combined reamer/cutters #1		

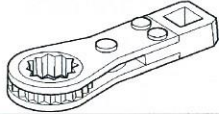
**Tool board key:**


# found on tool board 27610102


#1 found on tool board 27610097


#2 found on tool board 27610098

# 1106 Series

Fuel System			
Part Number	Description	Use with	
21825964	Spanner for flange nuts of Bosch fuel injection pump		
27610032	Timing pin for Bosch VP30 fuel injection pump <i>Also New 1000 and 1104</i>		

General Tools			
Part Number	Description	Use with	
21825565	Remover/FIP gear and cam gear <i>Also 4.236, 900 and 1000</i>		

Multi tools used on 1106 Series - tools used on several engine types			
Part Number	Description	Use with	
21825617	Dial gauge #	21825496	

Timing Tools			
Part Number	Description	Use with	
21825930	Fuel pump and camshaft gear removal bolts <i>Also 3.152, 4.236, New 1000 and 1000</i>		
27610218	Piston displacement timing tool		


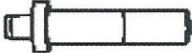
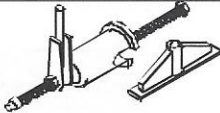
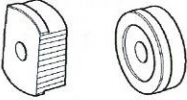


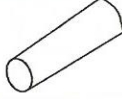
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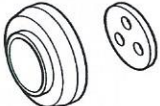
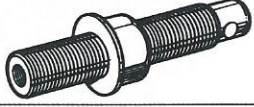




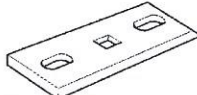
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#1 found on tool board 27610097

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# 1106 Series

Cylinder Block and Crankcase			
Part Number	Description	Use with	
27610209	Tappet chamber oil plug removal tool		
27610210	Tappet chamber oil plug fitting tool		
21825543	Remover/replacer for cylinder liner		
21825563	Adaptors cylinder liner remover/replacer	21825543	
21825583	Adaptor for water immersion seal	21825577	
21825615	Replacer tool for pistons		
27610031	Coolant pump, oil seal replacer tool		


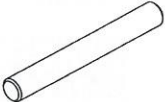





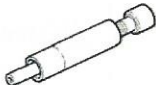


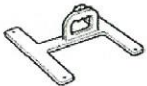
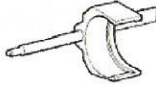
Crankshaft and Flywheel			
Part Number	Description	Use with	
21825574	Centraliser, timing cover (6 cylinder)  <i>Also 1000</i>		
21825577	Replacer, crank front oil seal, main tool <i>Also 3.152, 4.236, 700, 900, New 1000, 1000, 1103 and 1104</i>		
21825578	Pressure plate, crank front oil seal <i>Also 3.152, 4.236, 700, 900, New 1000, 1000, 1103 and 1104</i>	21825577	
21825579	Sleeve, crank front oil seal  <i>Also 3.152, 4.236, 700, 900, New 1000 and 1000</i>	21825577	
21825580	Fastener plate, crank front oil seal <i>Also 4.236, New 1000, 1000, 1103 and 1104</i>	21825577	
21825581	Crankshaft front oil seal replacer  <i>Also 4.236, New 1000 and 1000</i>	21825577	
21825576	Crankshaft rotating adaptor		

## 1106 Series

Electronics - Multi tools used on 1106 Series - tools used on several engine types			
Part Number	Description	Use with	
27610164	TIPSS communication adaptor kit		NO PICTURE
27610187	Hand held diagnostic tool		NO PICTURE
2900A504	MIC breakout T		NO PICTURE
U5MK0662	Wire harness repair kit		NO PICTURE
U5MK0668	Power up harness		NO PICTURE

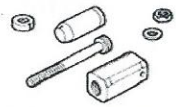


## 2300 and 2800 Series

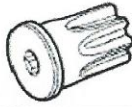
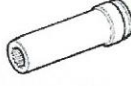

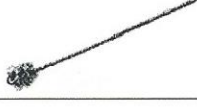

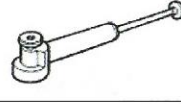

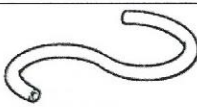
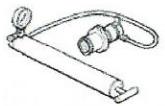
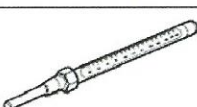

Cylinder Head			
Part Number	Description	Use with	
GE50015	Pilot, camshaft guide		
GE50016	Alignment sleeve, camshaft guide		
GE50017	Guide, camshaft		
GE50018	Cradle, camshaft		
GE50019	Guide stud, camshaft gear		
GE50025	Lifting hook, camshaft		
GE50026	Compressor, valve spring		
GE50027	Installer, valve guide seal		
GE50043	Remover/installer, valve guide		
GE50044	Sleeve, valve guide		
VP12712	Lift bracket, cylinder head		
CH11149	Setting gauge, fuel injector		

## 2300 and 2800 Series

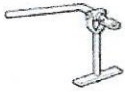
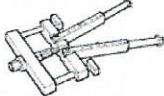


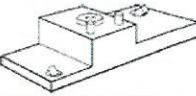
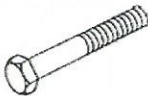



Fuel System		
Part Number	Description	Use with
GE50021	Remover/installer, injector sleeve	










General Tools		
Part Number	Description	Use with
CH11148	Engine turning tool	
GE50020	Impact socket	
GE50022	Brush, large bore	
GE50023	Brush, small tapered	
GE50024	Brush, small bore	
GE50028	Vacuum pump	
GE50029	Vacuum pump bottle	
GE50030	Vacuum pump tube	
GE50031	Pressuring pump, coolant system	
GE50032	Thermometer, coolant temperature	
GE50033	Pressure gauge	

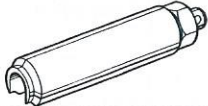

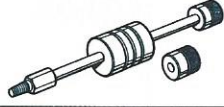

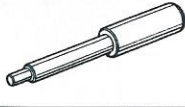




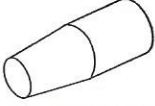
## 2300 and 2800 Series

Cylinder Block and Crankcase			
Part Number	Description	Use with	
GE50000	Installer, cylinder liner		
GE50001	Remover, cylinder liner		
GE50002	Height tool, cylinder liner projection		
GE50003	Piston ring compressor		
GE50004	Alignment tool, piston cooling jets		
GE50005	Clamp bolt, cylinder liner (26 required)		
GE50006	Washer (26 required)		
GE50007	Fibre washer (26 required)		
GE50045	Piston ring compressor		



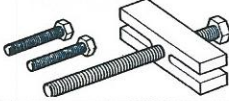
## 2300 and 2800 Series

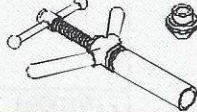
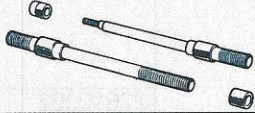
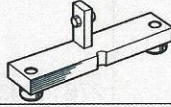
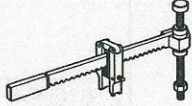
Crankshaft and Flywheel			
Part Number	Description	Use with	
GE50008	Locater, crankshaft seal		
GE50009	Bolt, crankshaft seal installer	GE50008	
GE50010	Distorter protection ring	GE50008	
GE50011	Distorter tool	GE50008	
GE50012	Installer, front crankshaft seal	GE50008	
GE50013	Installer, rear crankshaft seal	GE50008	
GE50014	Nut	GE50008	

Electronics			
Part Number	Description	Use with	
27610164	TIPSS communication adaptor kit		NO PICTURE
27610187	Hand held diagnostic tool		NO PICTURE

Fuel System			
Part Number	Description	Use with	
21825957	Puller, injector		
21825958	Socket, HP pipe nut		
21825960	Remover kit, injector sleeve		
21825961	Adaptor, injector sleeve puller		
21826012	Installer, nozzle injector sleeve		
27610091	Special Tap EDi		
27610092	Adaptor for injector unit sleeve remover EDi		
27610093	Adaptor for slide hammer EDi	21825860 and 27610092	
27610094	Installer for injector unit sleeve EDi		
27610095	Installer for injector unit seals EDi		

# 1300 Series

Crankshaft and Flywheel			
Part Number	Description	Use with	
21825953	Installer, front oil seal		
21825963	Installer, rear oil seal		
21825965	Remover, crank pulley		

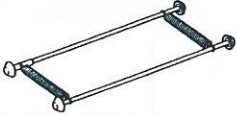
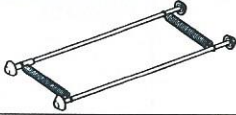
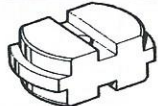
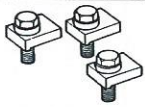
Multi tools used on 1300 Series - tools used on several engine types			
Part Number	Description	Use with	
21825478	Valve guide remover #		
21825479	Adaptor, valve guide remover #		
21825496	Gauge, piston height and valve head height #	21825617	
21825666	Valve springs compressor #		


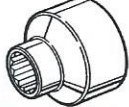
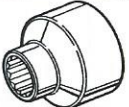

**Tool board key:**

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#1 found on tool board 27610097

#2 found on tool board 27610098

Cylinder Block and Crankcase			
Part Number	Description	Use with	
21825954	Gauge, piston groove (0.090≤)		
21825955	Gauge, piston groove (0.115≤)		
21825956	Adaptor, cylinder liner remover		
21825959	Kit, liner holding		

Timing Tools			
Part Number	Description	Use with	
21825949	Pin, timing		
21825950	Socket, upper idler gear		
21825951	Socket, lower idler gear		
21825952	Plunger, timing pin		

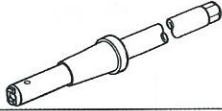

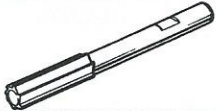
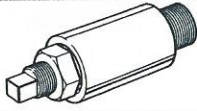
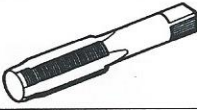
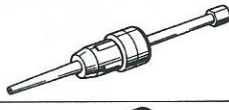


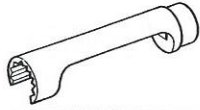
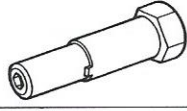
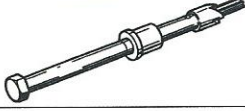
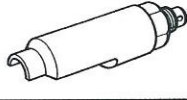
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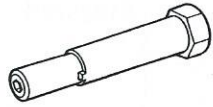
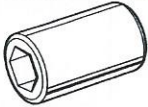
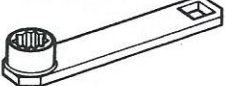
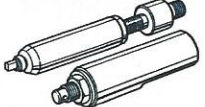
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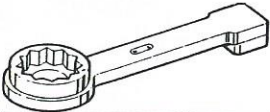
# 2000 and 3000 Series

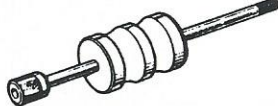

Fuel System			
Part Number	Description	Use with	
21825765	Tool holder, injector sleeve face cutter reamer, 3000		
21825767	Cutter, injector sleeve face, 3000		
21825768	Reamer, injector sleeve face, 3000		
21825771	Remover, injector sleeve, 3000		
21825773	Tap, injector sleeve remover, 3000		
21825776	Tube expander (Pattern 'C' type), 3000		
21825854	Adaptor kit, injector remover, 3000	21825849	
21825883	Ballizer, injector sleeve, 3000		
21825901	Wrench, governor drain, 3000 Only		
21825908	Wrench, injector sleeve, 2000		
21825909	Cleaning tool, injector seats sleeve, 2000		
21825914	Remover injector, 2000		




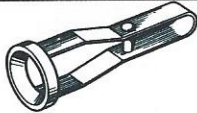

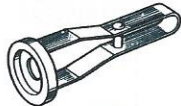
## 2000 and 3000 Series

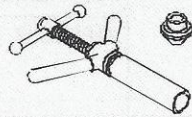
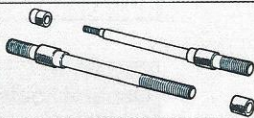
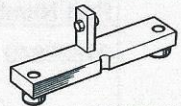

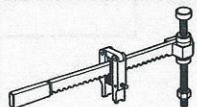
Fuel System (cont/d)			
Part Number	Description	Use with	
21825918	Wrench, spark plug sleeve, 2000 SI		
21825919	Wrench, spark plug sleeve, 3000 SI		
21825920	Wrench, drive coupling, 3000 Only		
21825922	Remover, injector and Injector sleeve, 2000		

Crankshaft and Flywheel			
Part Number	Description	Use with	
21825807	Spanner, crankshaft hub nut, 2000		

General Tools			
Part Number	Description	Use with	
21825849	Slide hammer, both		
21825617	Dial gauge		

## 2000 and 3000 Series

Cylinder Head			
Part Number	Description	Use with	
21825740	Adaptor, valve spring compressor, 3000		
21825741	Adaptor, valve spring compressor, 3000		
21825742	Adaptor, valve spring compressor, 2000		
21825743	Adaptor, valve spring compressor, 2000		

Multi tools used on 1104 Series - tools used on several engine types			
Part Number	Description	Use with	
21825478	Valve guide remover main tool #		
21825479	Adaptor, valve guide remover #	21825478	
21825496	Gauge, piston height and valve head height #	21825617	
21825607	Angle gauge, cylinder head set screws #2		
21825666	Compressor, valve springs #		







**Tool board key:**

# found on tool board 27610102

#1 found on tool board 27610097






#2 found on tool board 27610098


## 2000 and 3000 Series


Cylinder Block and Crankcase			
Part Number	Description	Use with	
21825784	Sleeve, piston replacer (2000 only)		
21825790	Remover/replacer, cylinder liner, both		
21825809	Guide stud, flywheel to crankshaft (3000 only)		
21825844	Distance piece, cylinder liner clamp, both		
21825845	Sleeve, piston replacer, (3000 only)		
21825902	Lapping tool, cylinder liner, both		





Tools used in both 2000 Series engines and 3000 Series engines have the word 'both' in place of the engine family number.




## 4000 Series

Crankshaft and Flywheel			
Part Number	Description	Use with	
T6253/140	Rear oil seal insertion kit	21825639	
T6253/141	Front oil seal insertion kit (4006)	21825577	
T6253/141A	Front oil seal insertion kit (4008)	21825577	
T6253/209	Crankshaft pulley extractor		
T85316/1	Front oil insertion kit		

Fuel System			
Part Number	Description	Use with	
T6253/241	Heinzmann PG 01 test unit (Not kept in stock)		

General Tools			
Part Number	Description	Use with	
SE253	Engine turning tool		

Timing Tools			
Part Number	Description	Use with	
T6253/146A	Injector clamp and fuel feed adaptor		
T6253/146B	Set of spare O rings		
T6253/172	Fuel setting tool (early engines)		
T6253/177	Fuel setting tool (later engines)		

Cylinder Block and Crankcase			
Part Number	Description	Use with	
T6253/139	Piston ring compressing tool	21825577	
T6253/152	Liner extractor	21825577	
T6253/212	Piston crown handle		

# 4000 Series

Cylinder Head			
Part Number	Description	Use with	
T6253/156	Injector bush coning tool	21825589	
T6253/240	Valve seat grinder kit (Not kept in stock)		
T85002/3	Valve guide inserting tool		
T85002/14B	Injector bush depth gauge		
T85002/2	Injector bush inserting tool		
T85002/7	Injector bush facing cutter		
T85002/58	Injector bush expanding tool (upper)		
T85002/6	Injector bush expanding tool (lower)		

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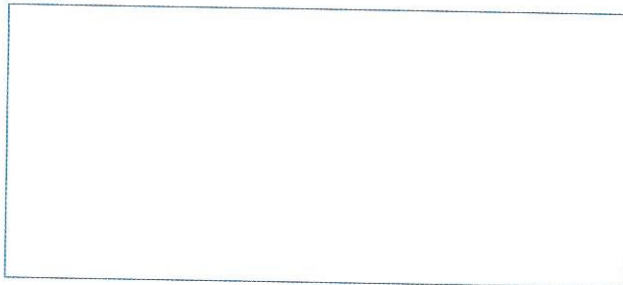
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The following information was obtained from the records of the Department of the Interior, Bureau of Land Management, regarding the land owned by the United States in the State of California.

The total land owned by the United States in California is approximately 100,000,000 acres. This land is divided into several categories, including National Forests, National Monuments, and National Antiquities.

The National Forests in California cover approximately 30,000,000 acres. These forests are managed by the United States Forest Service and are used for a variety of purposes, including timber production, recreation, and wildlife conservation.

The National Monuments in California cover approximately 10,000,000 acres. These monuments are established to protect areas of scientific, historical, or natural interest. Examples of National Monuments in California include the Anza-Borwick Desert National Monument and the Joshua Tree National Monument.

The National Antiquities in California cover approximately 5,000,000 acres. These antiquities are established to protect areas of historical or scientific interest. Examples of National Antiquities in California include the Pecos National Antiquities and the San Juan National Antiquities.



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