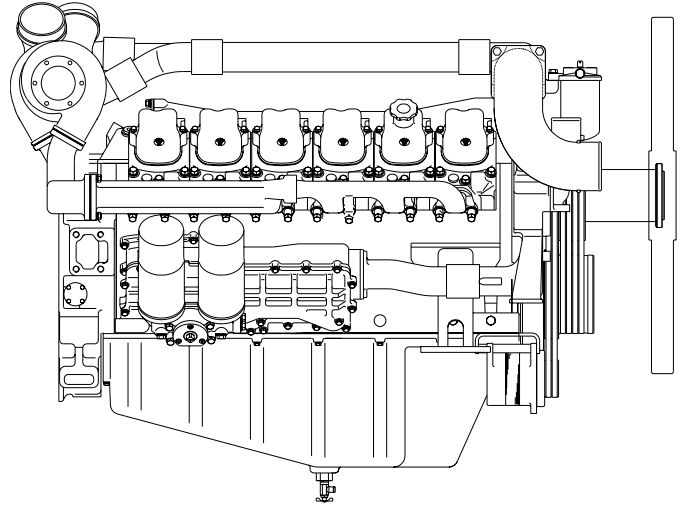


OD1075

GENERAC[®]
POWER SYSTEMS, INC.



22.0

LITER

D I E S E L

DAEWOO

ENGINE

PARTS

MANUAL

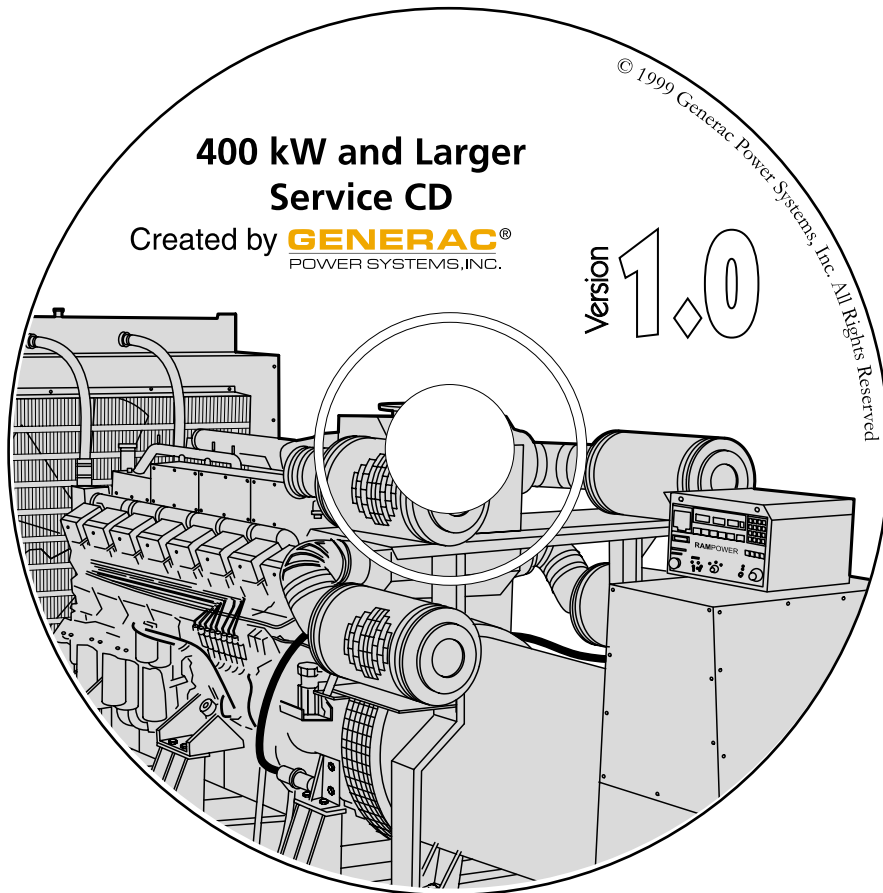
The additional following hard copy reference materials are available for generator sets utilizing this engine:

Generac D Control Panel Manual0A3303
Generac E Control Panel Manual0A7605
Marathon MagnaMax Alternator Manual0A9912
Marathon DVR2000 Voltage Regulator Manual0A9913
Generac Daewoo Generator Set Operation & Maintenance Manual0C9771
Daewoo Engine Parts Manual0D1075
Daewoo Engine Service Manual0D1074
Daewoo Engine Operation Manual0D1077

In addition, all Generac large generator set reference materials including all reference materials for this generator set and engine are contained in soft copy on the Generac 400 kW and Larger SERVICE CD, P/N 0C4754 for your convenience. By purchasing and registering this CD, you have the following advantages over trying to maintain a hard copy reference library:

- You have all reference materials available immediately at hand in 1 convenient package.
- You can print as many hard copies of any references you need as necessary and at your convenience.
- You will receive automatic notification of updates to the information on the CD as they occur without having to call and inquire about the latest revision available and without waiting for hard copies to be published, printed, and distributed.

For your convenience, all of the above reference materials can be ordered through your normal Generac Parts Distributor by referencing the appropriate part number. A list of Generac Ultimate Service Dealers (USD's) is included on the back of this manual.



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LEGEND

**"AR" AS REQUIRED
(STD) STANDARD SIZE**

"O.S." OVERSIZE

"U.S." UNDERSIZE

NOTICE!

THE INFORMATION IN THIS MANUAL IS KNOWN TO BE ACCURATE AS OF THE DATE OF RELEASE SHOWN ON THE COVER. HOWEVER, ENGINEERING CHANGES CAN OCCUR WITHOUT NOTICE. TO OBTAIN THE PROPER PARTS, PLEASE BE SURE TO USE THE MODEL NUMBER OF THE UNIT BEING SERVICED WHEN ORDERING FROM THIS MANUAL.

22.0L DIESEL QUICK REFERENCE GUIDE

SPECIFICATIONS:

ENGINE TYPE	22.0 LITER DAEWOO DIESEL ENGINE
CRANKCASE OIL CAPACITY:	11.1 U.S. GALLONS (42 LITERS)
COOLING SYSTEM CAPACITY:	34.5 U.S. GALLONS (131 LITERS)
ENGINE:	9.5 U.S. GALLONS (36 LITERS)
RADIATOR:	25 U.S. GALLONS (95 LITERS)

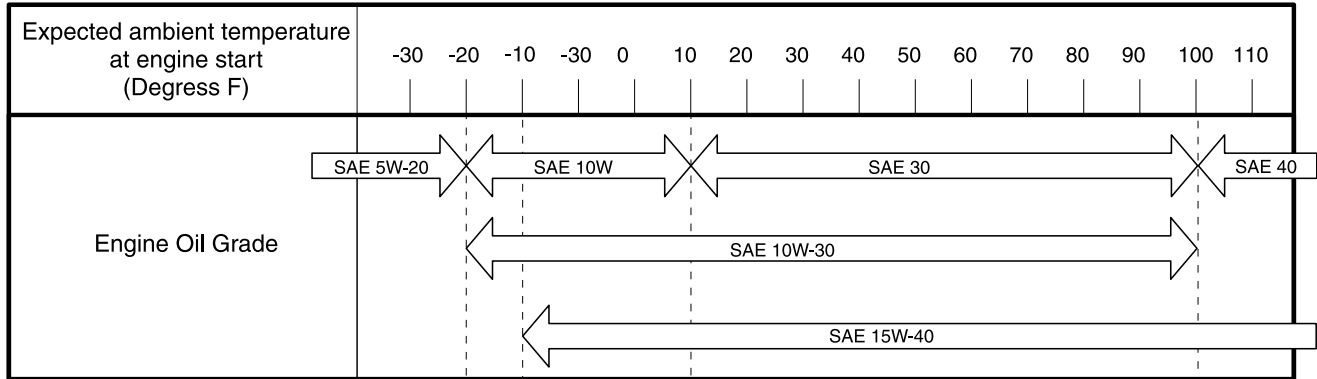
RECOMMENDED FLUIDS

COOLANT:

USE A 50/50 MIXTURE OF LOW SILICATE ETHYLENE GLYCOL BASE ANTI-FREEZE AND SOFT WATER. (IF DESIRED, A HIGH QUALITY RUST INHIBITOR MAY BE ADDED TO THE RECOMMENDED COOLANT MIXTURE.) WHEN ADDING COOLANT, ALWAYS ADD THE RECOMMENDED 50/50 MIXTURE.

ENGINE OIL:

USE A HIGH QUALITY DETERGENT OIL HAVING AAPI CLASSIFICATION "FOR SERVICE CF OR HIGHER." THE SAE VISCOSITY RATING OF THE OIL SHOULD BE CAREFULLY SELECTED, BASED ON THE PREVAILING AMBIENT TEMPERATURE RANGE ANTICIPATED BEFORE THE NEXT OIL CHANGE. RECOMMENDED SAE VISCOSITY GRADES ARE AS FOLLOWS:



NOTE: SAE 10W-30 recommended for all seasons.

QUICK REFERENCE ENGINE PARTS

ITEM (PAGE NO.)	PART NUMBER	DESCRIPTION	QTY
NOT SHOWN	0C1993	AIR CLEANER	2
1010 (PG 9)	0C46930174	FILTER ; BREATHER	1
1030 (PG 21)	0C46930269	CARTRIDGE ; OIL FILTER	2
1360 (PG 31)	0C46930357	BELT ; V-TYPE (SET OF 2)	2
1041 (PG 47)	0C46930450	ELEMENT ; FUEL FILTER	1
1170 (PG 49)	0C46930467	BELT ; V-TYPE (SET OF 2)	1

22.0L DIESEL SERVICE RECOMMENDATIONS

500 KW AND 600 KW STANDBY DAEWOO 22.0 LITER DIESEL ENGINE DRIVEN GENERATOR SETS

Following is a recommended maintenance schedule for Generac standby diesel engine driven generator sets from 350 kW to 2000 kW in size. The established intervals in the schedule are the *maximum* required when the unit is used in an average service application. They will need to be decreased (performed more frequently) if the unit is used in a severe application. Use the unit hour meter or calendar time, whichever occurs first, from the previous maintenance interval to determine the next required maintenance interval.

—▲ WARNING ▲—

▲ To prevent injury, disable the generator set from starting and/or connecting to the load by setting the control panel Auto-Off-Manual switch to the "Off" position, removing the control panel fuse, turning off the battery charger, and removing the negative battery cable before performing any maintenance. NOTE: The battery charger must be turned off BEFORE removing the battery cable to prevent an over current condition from burning out sensitive control panel components and circuits. Following all maintenance, reverse these steps to insure the unit is returned to standby setup for normal operation when required.

Maint Level	Maintenance Frequency	Maintenance Tasks
1	Every month or 10 hours of operation (Requires approximately 0.5 man hours per unit)	<ol style="list-style-type: none"> 1. Disable the unit from operating per the first page warning. 2. Check the engine oil level. Adjust as necessary. 3. Check the engine coolant level. Adjust as necessary. 4. Check the battery electrolyte level if accessible. Adjust as necessary. 5. Check the diesel fuel supply level. Adjust as necessary. 6. Check the air inlets and outlets for debris. Clean as necessary. 7. Visually inspect the unit looking for leaks, wear or damage, loose connections or components, and corrosion. Correct as necessary. 8. Return the unit to operational condition.

22.0L DIESEL SERVICE RECOMMENDATIONS

Maint Level	Maintenance Frequency	Maintenance Tasks
1A	First 6 months or 50 hours of operation <u>ONLY</u> (Requires approximately 2.5 man hours per unit)	<ol style="list-style-type: none"> 1. Disable the unit from operating per the first page warning. 2. Check the engine oil level. Adjust as necessary. 3. Check the engine coolant level. Adjust as necessary. 4. Check the battery electrolyte level if accessible. Adjust as necessary. 5. Check the diesel fuel supply level. Adjust as necessary. 6. Drain water and sediment from the diesel fuel tank. 7. Drain water from the diesel fuel line water separator if unit is equipped with one. 8. Check the air inlets and outlets for debris. Clean as necessary. 9. Visually inspect the unit looking for leaks, wear or damage, loose connections or components, and corrosion. Correct as necessary. 10. Initiate an automatic start and transfer to load of the unit, and exercise it for at least 1 hour looking for leaks, loose connections or components, and abnormal operating conditions. Correct as necessary. 11. Change the engine oil. 12. Replace the engine oil filter(s). 13. Replace the engine fuel filter(s). 14. Return the unit to stand-by setup for operation when required.

22.0L DIESEL SERVICE RECOMMENDATIONS

Maint Level	Maintenance Frequency	Maintenance Tasks
2	Every 6 months or 50 hours of operation (Requires approximately 1.5 man hours per unit)	<ol style="list-style-type: none"> 1. Disable the unit from operating per the first page warning. 2. Check the engine oil level. Adjust as necessary. 3. Check the engine coolant level. Adjust as necessary. 4. Check the battery electrolyte level if accessible. Adjust as necessary. 5. Check the diesel fuel supply level. Adjust as necessary. 6. Drain water and sediment from the diesel fuel tank. 7. Drain water from the diesel fuel line water separator if unit is equipped with one. 8. Check the air inlets and outlets for debris. Clean as necessary. 9. Visually inspect the unit looking for leaks, wear or damage, loose connections or components, and corrosion. Correct as necessary. 10. Initiate an automatic start and transfer to load of the unit, and exercise it for at least 1 hour looking for leaks, loose connections or components, and abnormal operating conditions. Correct as necessary. 11. Return the unit to standby setup for operation when required.

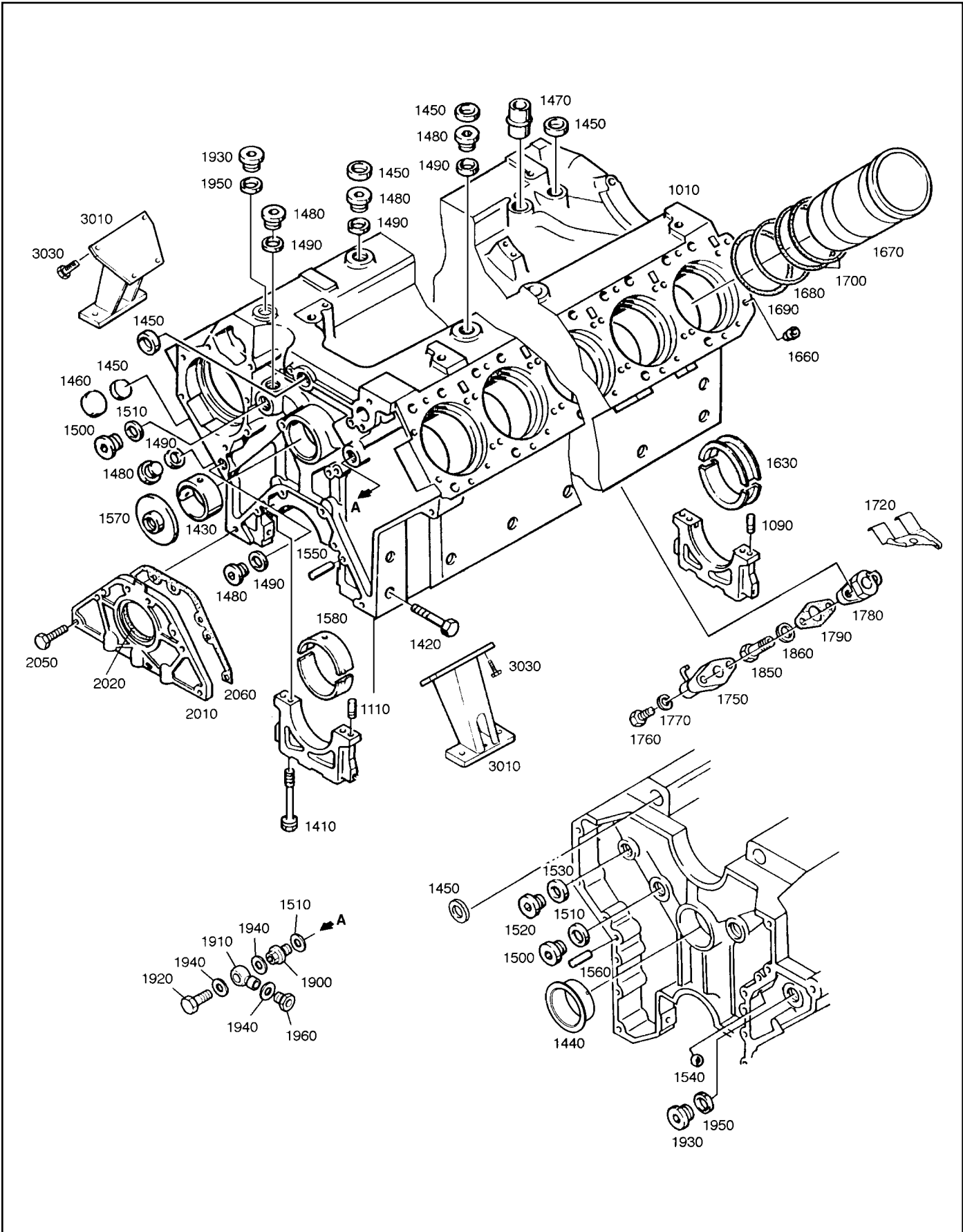
22.0L DIESEL SERVICE RECOMMENDATIONS

Maint Level	Maintenance Frequency	Maintenance Tasks
3	Every 12 months or 100 hours of operation (Requires approximately 4.0 man hours per unit)	<ol style="list-style-type: none"> 1. Disable the unit from operating per the first page warning. 2. Check the engine oil level. Adjust as necessary. 3. Check the engine coolant level. Adjust as necessary. 4. Check the engine coolant thermal protection level. Correct as necessary. 5. Check the diesel fuel supply level. Adjust as necessary. 6. Drain water and sediment from the diesel fuel tank. 7. Drain water from the diesel fuel line water separator if unit is equipped with one. 8. Check the air inlets and outlets for debris. Clean as necessary. 9. Check the battery electrolyte level if accessible. Adjust as necessary. 10. Check the battery posts, cables, and charger for loose connections, corrosion, and proper operation. Correct as necessary. 11. Check the unit wiring for loose connections, corrosion, and damage. Correct as necessary. 12. Check the engine accessory drive belts for wear, weather cracking, and damage. Replace as necessary. 13. Test the unit safety devices (alarms, shutdowns, etc.) for proper operation. Correct and/or adjust as necessary. 14. Perform an oil analysis (send a sample to a lab for results). Change the engine oil and filters if the analysis results indicate this is required. 15. Visually inspect the unit looking for leaks, wear or damage, loose connections or components, and corrosion. Correct as necessary. 16. Start and exercise the unit under full rated load for at least 2 hours looking for leaks, loose connections or components, and abnormal operating conditions. Correct as necessary. 17. Return the unit to standby setup for operation when required.

22.0L DIESEL SERVICE RECOMMENDATIONS

Maint Level	Maintenance Frequency	Maintenance Tasks
4	Every 24 months or 250 hours of operation (Requires approximately 8.0 man hours per unit)	<ol style="list-style-type: none"> 1. Disable the unit from operating per the first page warning. 2. Check the engine oil level. Adjust as necessary. 3. Check the engine coolant level. Adjust as necessary. 4. Check the engine coolant thermal protection level. Correct as necessary. 5. Check the diesel fuel supply level. Adjust as necessary. 6. Drain water and sediment from the diesel fuel tank. 7. Drain water from the diesel fuel line water separator if unit is equipped with one. 8. Check the air inlets and outlets for debris. Clean as necessary. 9. Check the battery electrolyte level if accessible. Adjust as necessary. 10. Check the battery posts, cables, and charger for loose connections, corrosion, and proper operation. Correct as necessary. 11. Check the unit wiring for loose connections, corrosion, and damage. Correct as necessary. 12. Check the engine accessory drive belts for wear, weather cracking, and damage. Replace as necessary. 13. Check the engine valve clearance. Adjust as necessary. 14. Visually inspect the unit looking for leaks, wear or damage, loose connections or components, and corrosion. Correct as necessary. 15. Start and exercise the unit under full rated load for at least 2 hours looking for leaks, loose connections or components, and abnormal operating conditions. Correct as necessary. 16. Change the engine oil. 17. Replace the engine oil filter(s). 18. Replace the engine fuel filter(s). 19. Replace the engine air filter(s). 20. Start the unit and exercise it for at least 15 minutes looking for leaks, loose connections or components, and abnormal operating conditions. Correct as necessary. 21. Return the unit to standby setup for operation when required.

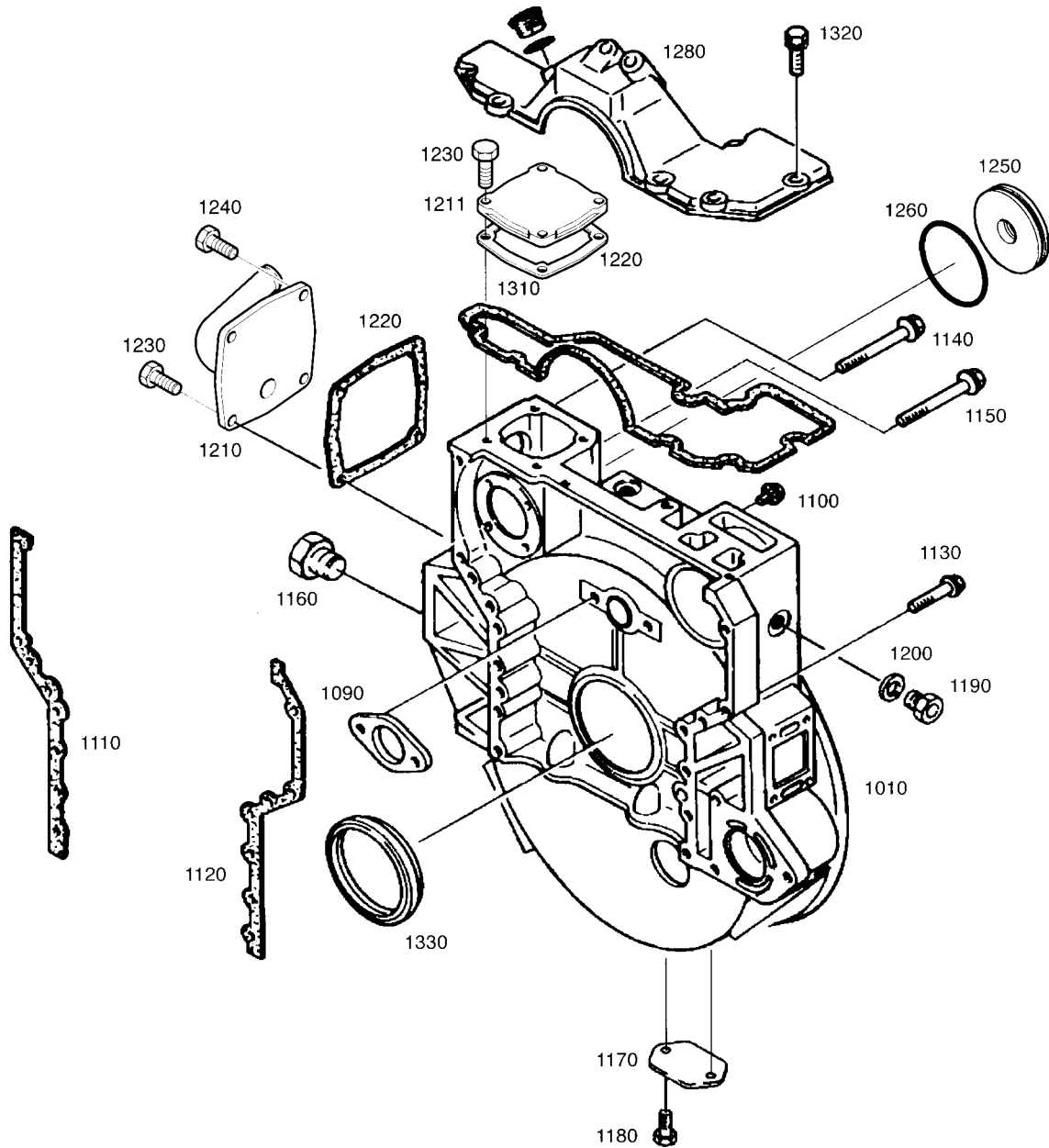
22.0L DIESEL — CYLINDER BLOCK



22.0L DIESEL — CYLINDER BLOCK

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930101	CYLINDER BLOCK ASS'Y (ALTV)	1
1090	0C46930104	PIN ; DOWEL	2
1110	0C46930105	PIN ; DOWEL (8H8X18)	2
1410	0C46930106	BOLT ; COLLARED HEX.	14
1420	0C46930107	BOLT ; HEX. M12X1.5X85	14
1430	0C46930108	BUSH ; CAMSHAFT	6
1440	0C46930109	BUSH ; CAMSHAFT	1
1450	0C46930110	COVER ; DUST	13
1460	0C46930111	COVER ; DUST	4
1470	0C46930112	PIPE ; OIL	1
1480	0C46930113	SCREW ; PLUG	8
1490	0C46930114	RING ; SEAL 26X31	8
1500	0C46930115	SCREW ; PLUG	4
1510	0C46930116	RING ; SEAL A30X36	4
1520	0C46930117	SCREW ; PLUG	1
1530	0C46930118	RING ; SEAL A18X24	1
1540	0C46930119	BALL ; STEEL ¼ KS-B2001	1
1550	0C46930120	PIN ; DOWEL (8M6X24)	2
1560	0C46930121	PIN ; DOWEL (16H8X24)	2
1570	0C46930122	COVER ; CORE HOLE	1
1580	0C46930123	BEARING ; MAIN	6
1630	0C46930124	BEARING ; THRUST	1
1660	0C46930125	SPACER	1
1670	0C46930126	LINER ; CYLINDER	12
1680	0C46930127	O-RING	12
1690	0C46930128	O-RING	12
1700	0C46930129	O-RING	24
1720	0C46930130	BAFFLE ; BREATHER	1
1750	0C46930131	NOZZLE ; OIL SPRAY	12
1760	0C46930132	BOLT ; HEX. M6X28	24
1770	0C46930133	WASHER ; SPRING	24
1780	0C46930134	FLANGE ASS'Y	12
1790	0C46930135	GASKET	12
1850	0C46930136	SCREW ; HOLLOW	12
1860	0C27100400	RING ; SEAL A14 X 20	12
1900	0C46930138	ADAPTER	1
1910	0C46930139	UNION ; BANJO	1
1920	0C46930140	SCREW ; HOLLOW	1
1930	0C27100117	SCREW ; PLUG	2
1940	0C46930118	RING ; SEAL A18 X 24	3
1950	0C46930142	RING ; SEAL	2
1960	0C46930143	NIPPLE	1
2010	0C46930144	HOLDER ; OIL SEAL	1
2020	0C46930145	SEAL ; OIL (FRONT)	1
2050	0C46930146	BOLT ASS'Y M8X28	6
2060	0C46930147	GASKET ; SEAL HOLDER	1
3010	0C46930148	BRACKET ; FRONT MOUNTING	2
3030	0C46930149	BOLT ASS'Y M12X35	8

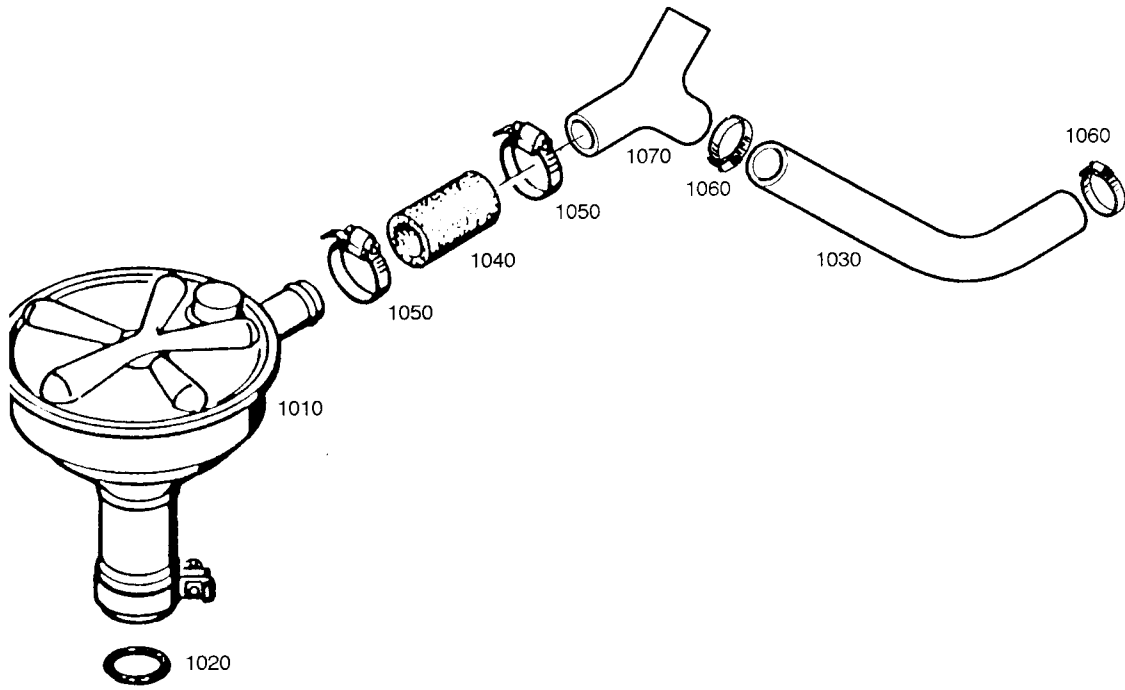
22.0L DIESEL — FLYWHEEL HOUSING



22.0L DIESEL — FLYWHEEL HOUSING

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930150	HOUSING ; FLYWHEEL	1
1090	0C46930151	WASHER ; THRUST	1
1100	0C46930152	BOLT ; COLLARED HEX.	2
1110	0C46930153	GASKET ; FLYWHEEL HOUSING	1
1120	0C46930154	GASKET ; FLYWHEEL HOUSING	1
1130	0C46930155	BOLT ; FLYWHEEL HOUSING	10
1140	0C46930156	BOLT ; FLYWHEEL HOUSING	1
1150	0C46930157	BOLT ; FLYWHEEL HOUSING	1
1160	0C27100170	CAP ; RUBBER ; FLYWHEEL HOUSING	1
1170	0C46930159	COVER ; TIMING POINTER HOLE	1
1180	0C46930160	BOLT ASS'Y M8X12	2
1190	0C46930161	SCREW ; PLUG	1
1200	0C46930162	RING ; SEAL	1
1210	0C46930163	COVER ; FLYWHEEL HOUSING	1
1211	0C46930164	COVER	1
1220	0C46930165	GASKET	2
1230	0C46930166	BOLT ASS'Y M8X30	7
1240	0C46930167	HEX. BOLT ASS'Y 2M8X25	1
1250	0C46930168	COVER ; FLYWHEEL HOUSING	1
1260	0C46930169	O-RING	1
1280	0C46930170	COVER ; FLYWHEEL HOUSING	1
1310	0C46930171	GASKET ; FLYWHEEL HOUSING	1
1320	0C46930166	BOLT ASS'Y M8X30	8
1330	0C46930172	SEAL ; OIL (REAR)	1
1340	0C46930173	SENSOR ; TACHO (NOT SHOWN)	1

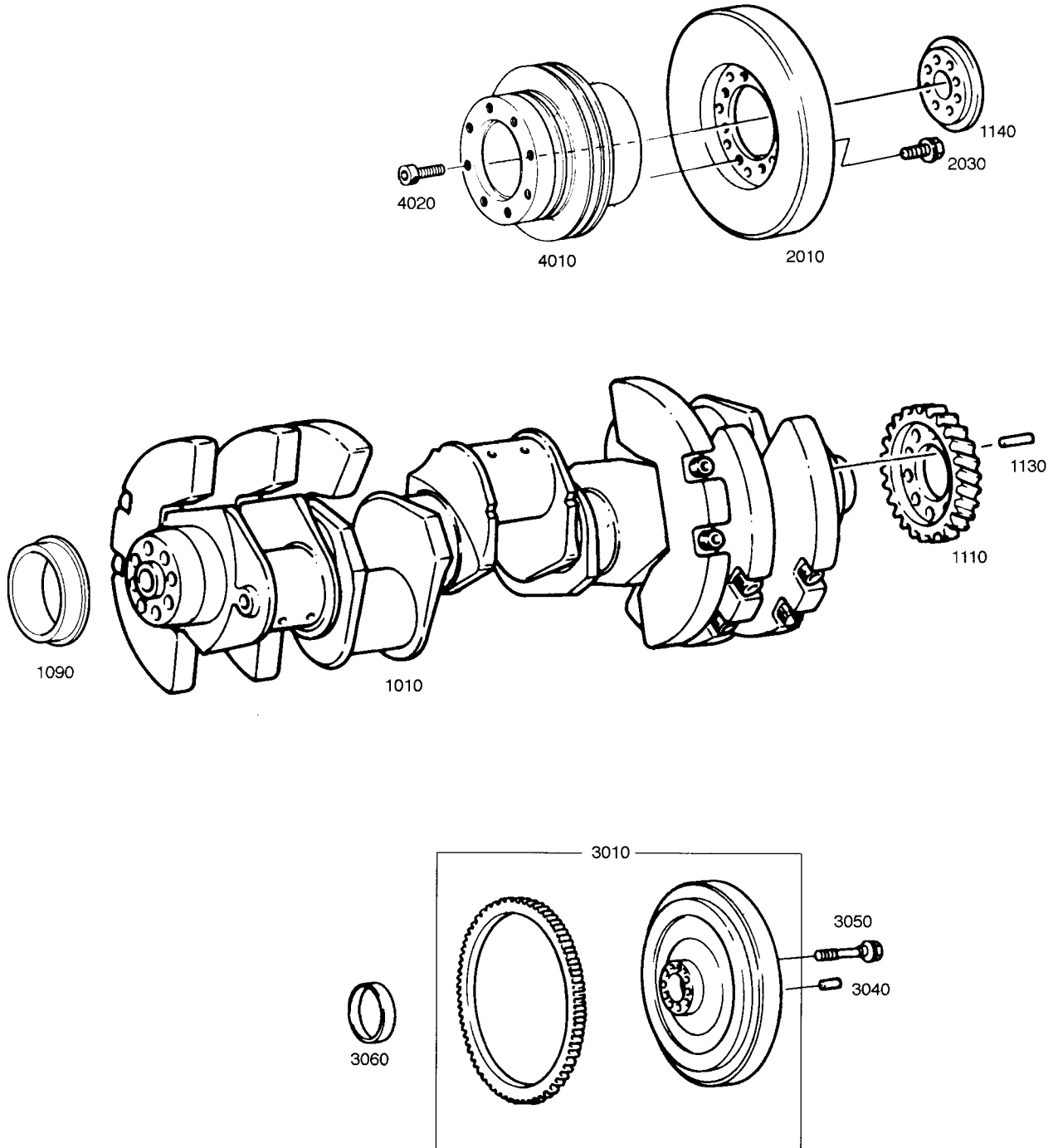
22.0L DIESEL — BREATHER FILTER



22.0L DIESEL — BREATHER FILTER

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930174	FILTER ; BREATHER	1
1020	0C46930175	O-RING	1
1030	0C46930176	HOSE ; RUBBER	2
1040	0C46930177	HOSE ; RUBBER	1
1050	0C27100318	CLAMP ; HOSE NW S20	2
1060	0C46930179	CLAMP ; HOSE NW 12	4
1070	0C46930180	PIPE ; BREATHER	1

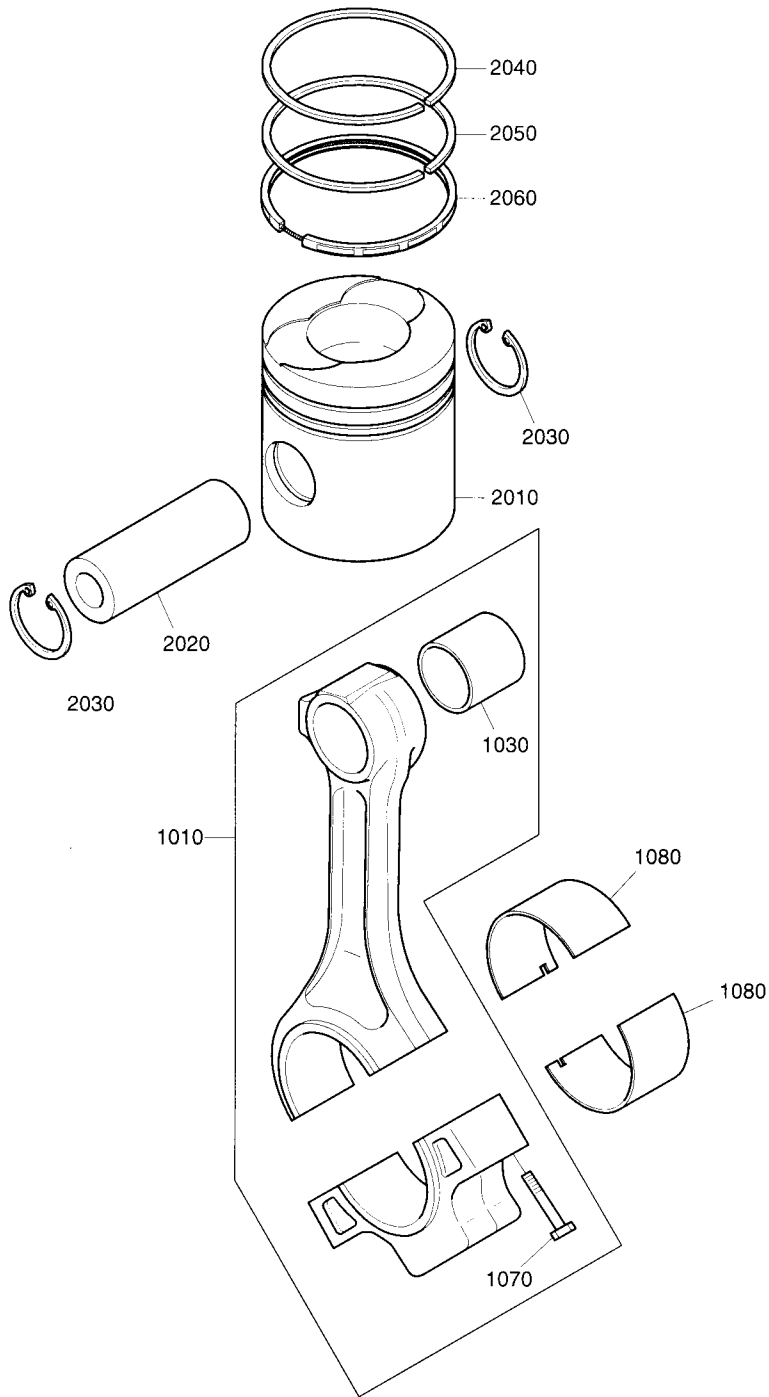
22.0L DIESEL — CRANK SHAFT



22.0L DIESEL — CRANK SHAFT

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930183	CRANK SHAFT ASS'Y	1
1090	0C46930184	RING ; WEAR, FRONT	1
1110	0C46930185	GEAR ; CRANK SHAFT	1
1130	0C46930186	PIN ; PARALLEL	1
1140	0C46930187	RING ; OIL THROWER	1
2010	0C46930188	DAMPER ; VIBRATION	1
2030	0C46930189	BOLT ; COLLARED HEX.	6
3010	0C46930190	FLYWHEEL ASS'Y	1
3040	0C46930191	PIN ; LOCK	1
3050	0C46930192	BOLT ; COLLARED HEX.	10
3060	0C46930193	RING ; WEAR (REAR)	1
4010	0C46930194	PULLEY ; V-BELT	1
4020	0C46930195	BOLT	8

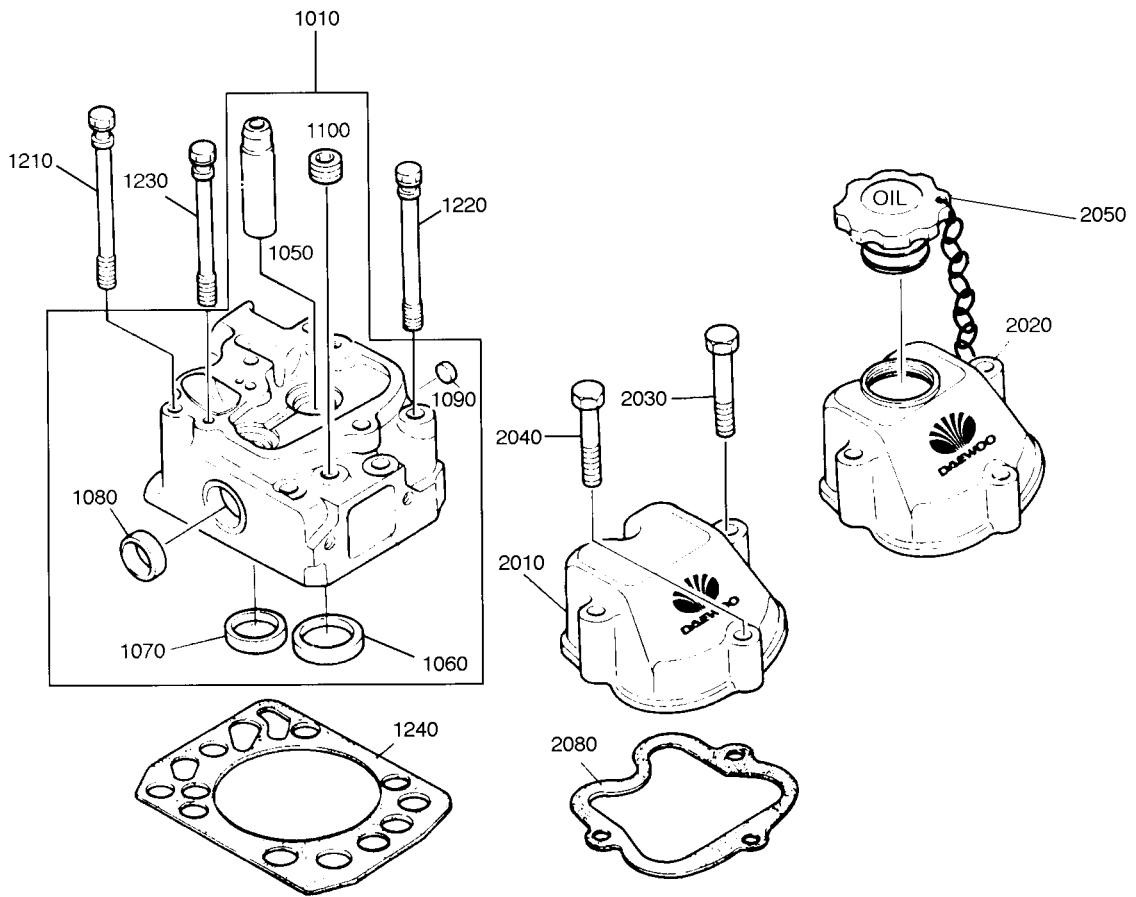
22.0L DIESEL — PISTON



22.0L DIESEL — PISTON

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930196	CONNECTING ROD ASS'Y	12
1030	0C46930197	BUSH ; CON-ROD	12
1070	0C46930198	BOLT ; CON-ROD	24
1080	0C46930199	BEARING ; CON-ROD (STD)	24
	0C46930200	BEARING ; CON-ROD (0.10)	24
	0C46930201	BEARING ; CON-ROD (0.25)	24
	0C46930202	BEARING ; CON-ROD (0.50)	24
	0C46930203	BEARING ; CON-ROD (0.75)	24
	0C46930204	BEARING ; CON-ROD (1.00)	24
2010	0C46930205	PISTON	12
2020	0C46930206	PIN ; PISTON	12
2030	0C46930207	RING ; SNAP	24
2040	0C46930208	RING ; PISTON (TOP)	12
2050	0C46930209	RING ; PISTON (2ND)	12
2060	0C46930210	RING ; PISTON (OIL)	12

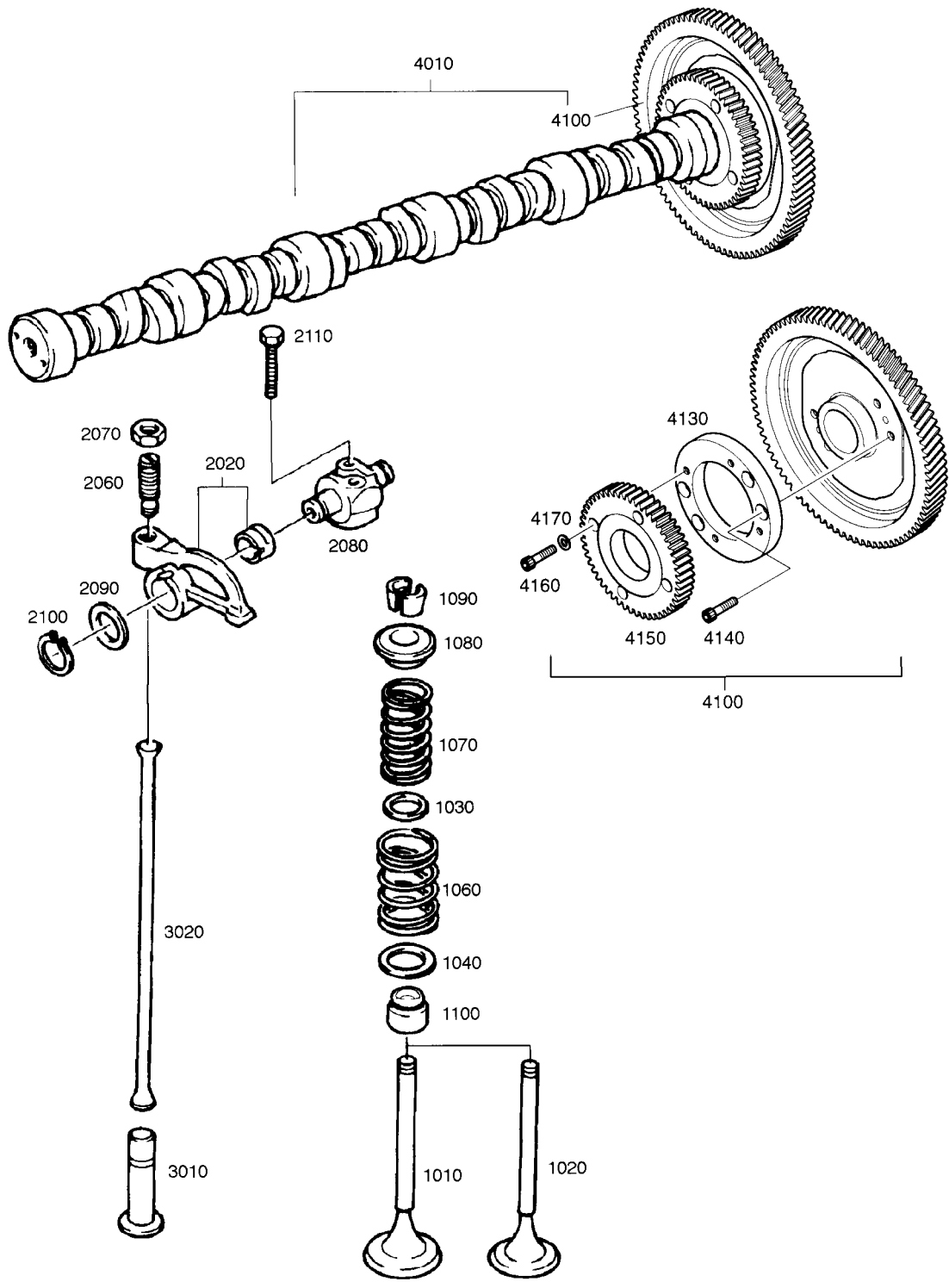
22.0L DIESEL — CYLINDER HEAD



22.0L DIESEL — CYLINDER HEAD

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930211	CYLINDER HEAD ASS'Y(ALTV)	12
1050	0C46930213	GUIDE ; VALVE	12
1060	0C46930214	SEAT ; INTAKE VALVE	24
1070	0C46930215	SEAT ; EXHAUST VALVE	12
1080	0C46930111	COVER ; DUST	12
1090	0C46930216	PLUG ; CORE HOLE	12
1100	0C46930217	PLUG ; SCREW M22X1.5	12
1210	0C46930219	BOLT ; CYLINDER HEAD	24
1220	0C46930220	BOLT ; CYLINDER HEAD	36
1230	0C46930221	BOLT ; CYLINDER HEAD	12
1240	0C46930222	GASKET ; CYLINDER HEAD	12
2010	0C46930223	COVER ; NO OIL FILL VALVE	11
2020	0C46930224	COVER ; OIL FILL VALVE	1
2030	0C46930225	BOLT ASS'Y M8X70	24
2040	0C27100282	BOLT ASS'Y M8X45	12
2050	0C46930227	CAP ; FILLER WITH CHAIN	1
2080	0C46930228	GASKET;CYLINDER HEAD COVER	12

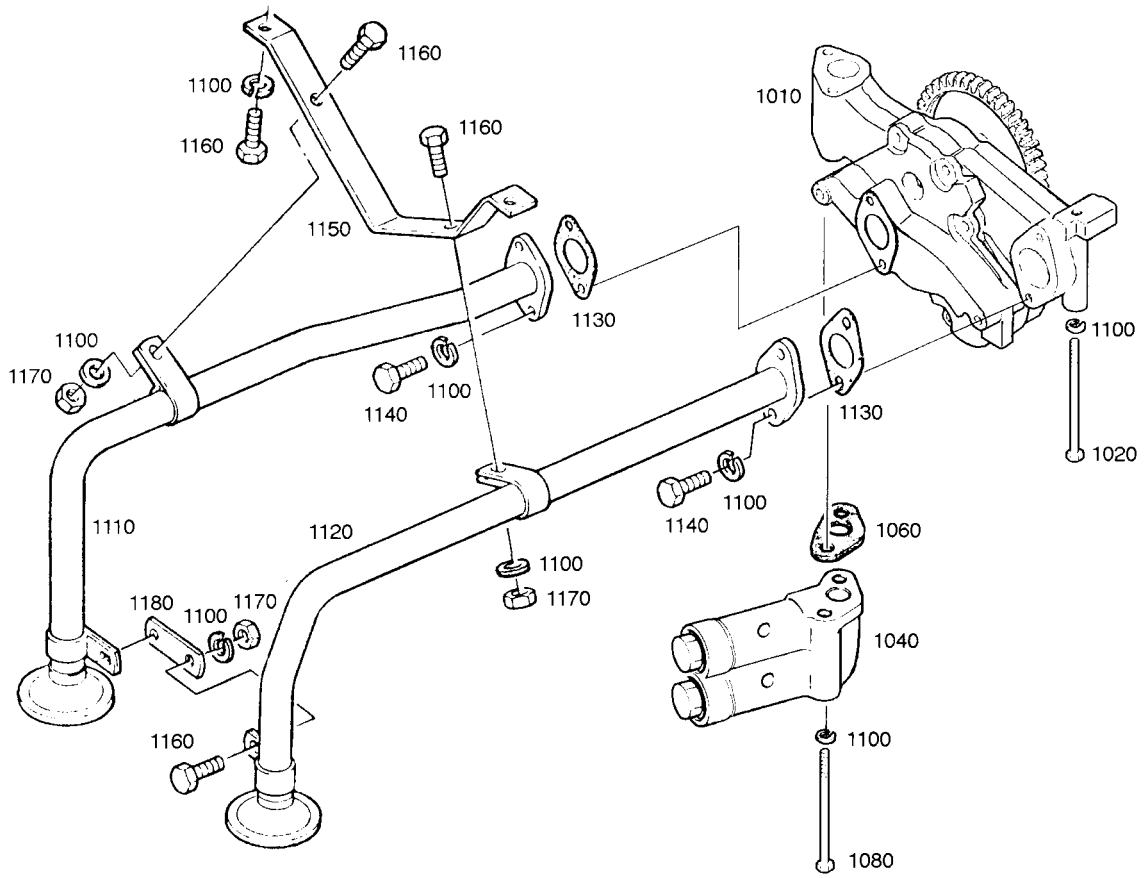
22.0L DIESEL — CAMSHAFT



22.0L DIESEL — CAMSHAFT

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930229	VALVE ; INTAKE	12
1020	0C46930230	VALVE ; EXHAUST	12
1030	0C46930231	WASHER	24
1040	0C46930232	WASHER	24
1060	0C46930233	SPRING ; VALVE (OUTER)	24
1070	0C46930234	SPRING ; VALVE (INNER)	24
1080	0C46930235	PLATE ; VALVE SPRING	24
1090	0C46930236	VALVE KEEPER	48
1100	0C46930237	SEAL ; VALVE STEM	24
2020	0C46930238	ROCKER ARM ASS'Y	24
2060	0C46930239	SCREW ; ADJUST	24
2070	0C46930240	NUT ; HEX	24
2080	0C46930241	BRACKET ; ROCKER ARM	12
2090	0C46930242	WASHER	24
2100	0C46930243	RING ; SNAP 24X1.2	24
2110	0C46930244	BOLT ; HEX.	24
3010	0C46930245	TAPPET ; VALVE	24
3020	0C46930246	ROD ; PUSH	24
4010	0C46930247	CAMSHAFT ASS'Y	1
4100	0C46930248	INJECTION PUMP DRIVE ASS'Y	1
4130	0C46930249	SPACER	1
4140	0C46930250	BOLT ; SOCKET HEAD	4
4150	0C46930251	GEAR;INJECTION PUMP DRIVE	1
4160	0C46930252	BOLT ; SOCKET HEAD	4
4170	0C46930253	WASHER ; SPRING	4

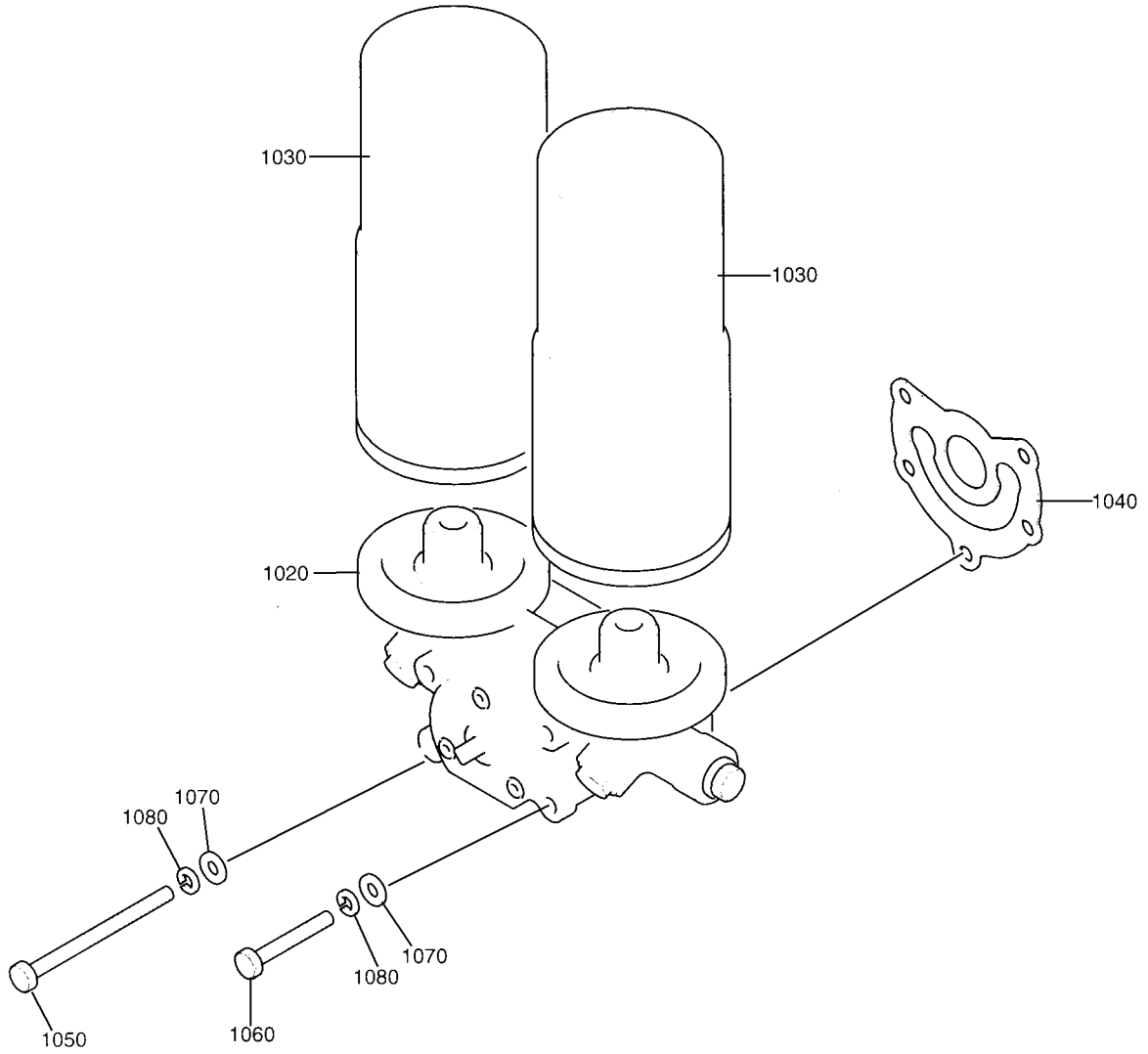
22.0L DIESEL — OIL PUMP



22.0L DIESEL — OIL PUMP

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930254	OIL PUMP ASS'Y	1
1020	0C27100330	BOLT ; HEX. M8X95	1
1040	0C46930257	RELIEF VALVE ASS'Y	1
1060	0C46930258	GASKET ; OIL PIPE	1
1080	0C46930259	BOLT ; HEX. M8X140	2
1100	0C27100331	WASHER ; SPRING A8	13
1110	0C46930260	PIPE ; OIL	1
1120	0C46930261	PIPE ; OIL	1
1130	0C46930262	GASKET ; FLANGE	2
1140	0C27100159	HEX BOLT ASS'Y M8X25	4
1150	0C46930264	BRACKET ; OIL PIPE	1
1160	0C27100116	BOLT ASS'Y M8X20	6
1170	0C27100262	NUT ; HEX. M8	4
1180	0C46930267	HOLDER	1

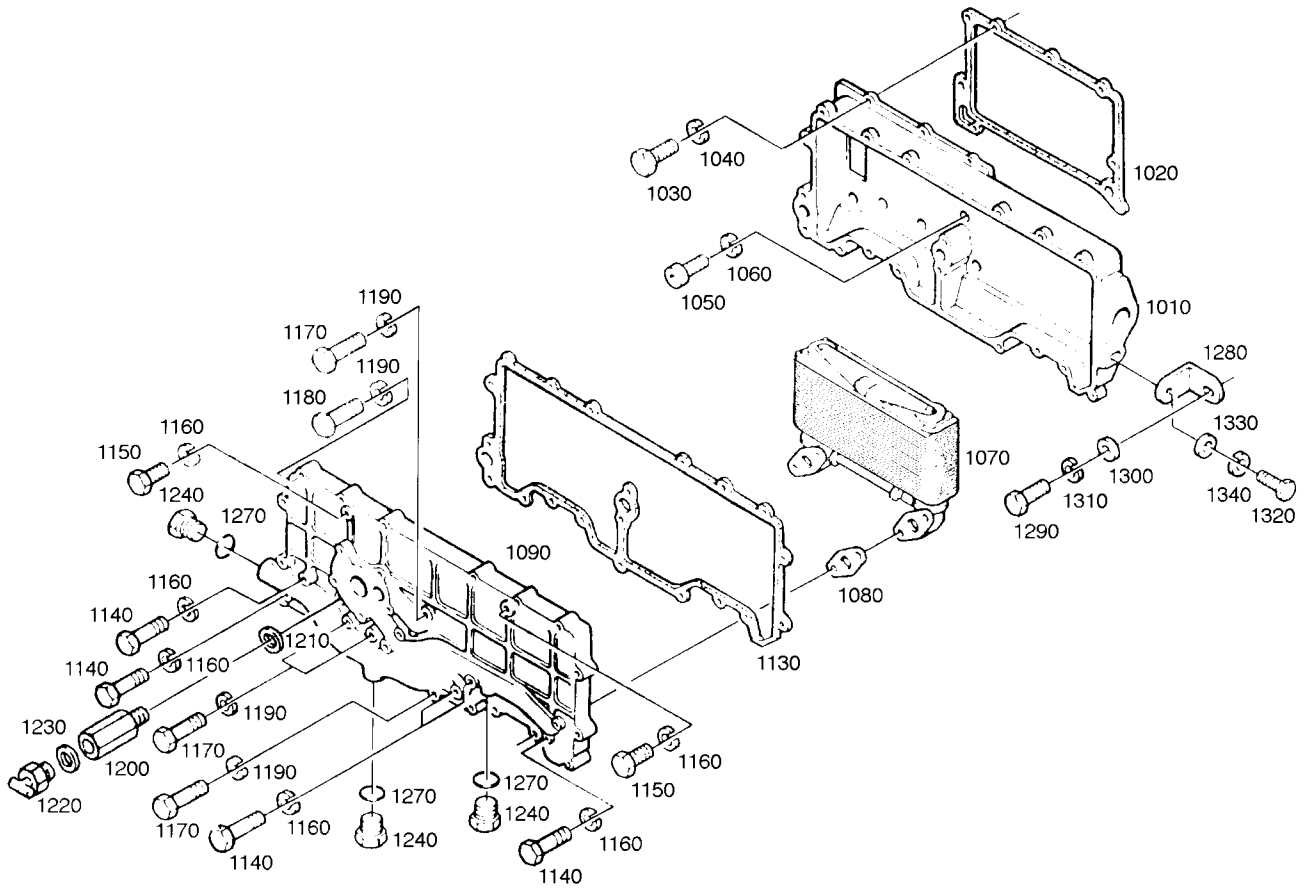
22.0L DIESEL — OIL FILTER



22.0L DIESEL — OIL FILTER

ITEM	PART NUMBER	DESCRIPTION	QTY
1020	0C46930268	HEAD ; OIL FILTER	1
1030	0C46930269	CARTRIDGE ; OIL FILTER	2
1040	0C46930270	GASKET ; OIL FILTER	1
1050	0C46930271	BOLT ; HEX. M10X125	4
1060	0C46930272	BOLT ; HEX. M10X60	1
1070	0C27100336	WASHER 8.4	5
1080	0C27100331	WASHER ; SPRING A8	5

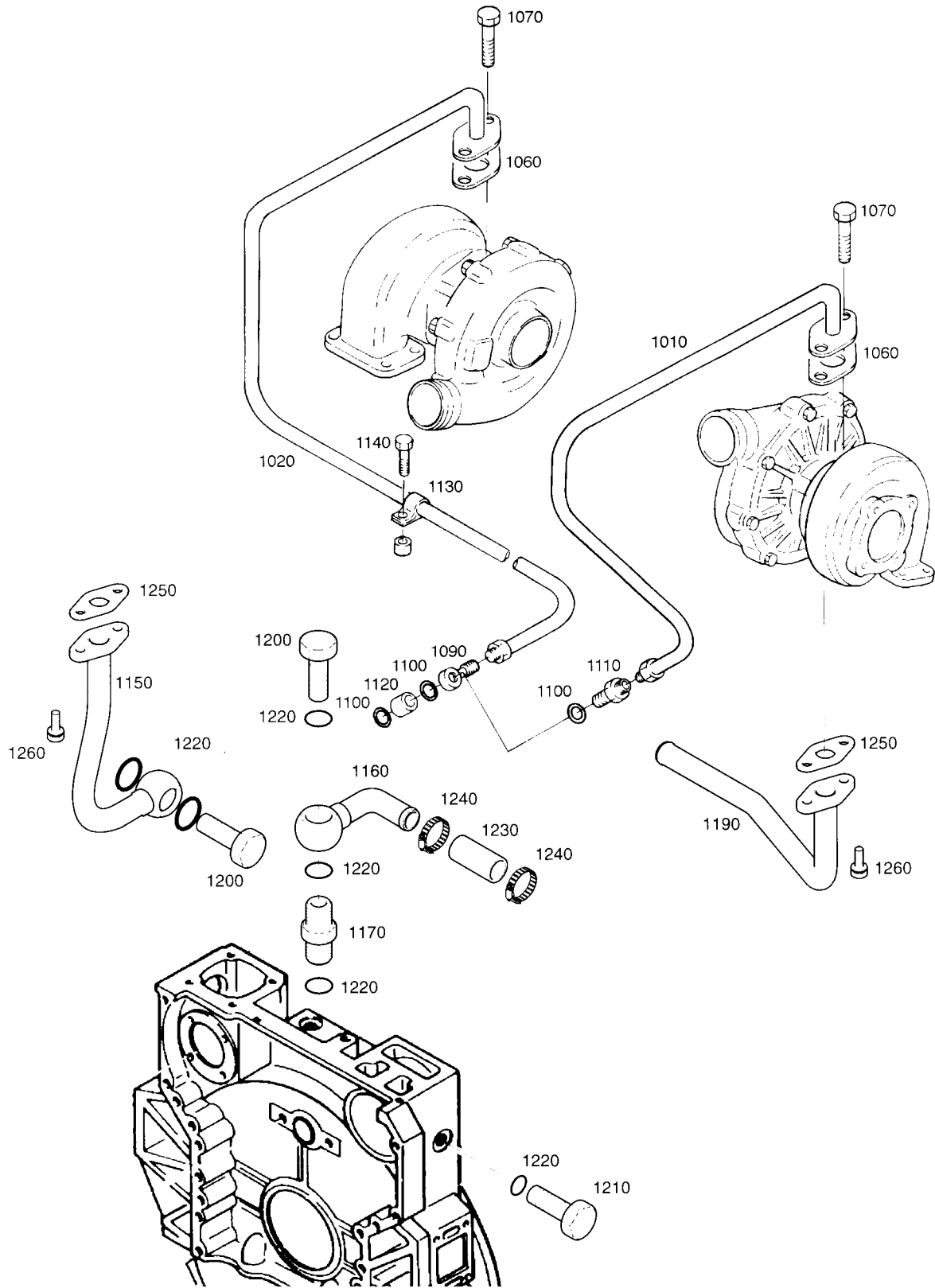
22.0L DIESEL — OIL COOLER



22.0L DIESEL — OIL COOLER

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930274	HOUSING ; OIL COOLER	1
1020	0C46930275	GASKET ; OIL COOLER	1
1030	0C46930276	BOLT ; HEX. M10X35	5
1040	0C46930277	WASHER ; SPRING B10	5
1050	0C46930278	BOLT ; SOCKET HEAD	5
1060	0C27100395	WASHER ; PLAIN 10.5	5
1070	0C46930280	OIL COOLER ASS'Y	2
1080	0C46930281	GASKET ; FLANGE	4
1090	0C46930282	HEAD ; OIL COOLER	1
1130	0C46930283	GASKET ; OIL COOLER	1
1140	0C46930284	BOLT ; HEX. M8X55	8
1150	0C46930285	BOLT ; HEX. M8X16	2
1160	0C46930253	WASHER ; SPRING	10
1170	0C27100334	BOLT ; HEX. M8X90	5
1180	0C46930287	BOLT ; HEX. M8X35	17
1190	0C46930253	WASHER ; SPRING	22
1200	0C46930288	ADAPTER	1
1210	0C27100400	RING ; SEAL A14X20	1
1220	0C46930289	VALVE ; DRAIN	1
1230	0C46930290	RING ; SEAL A16X22	1
1240	0C46930161	SCREW ; PLUG	3
1270	0C46930114	RING ; SEAL 26X31	3
1280	0C46930291	HOLDER	1
1290	0C46930292	BOLT ; HEX. M12X30	1
1300	0C27100234	WASHER ; PLAIN 12	1
1310	0C27100420	WASHER ; SPRING A12	1
1320	0C46930295	BOLT ; HEX. M8X20	1
1330	0C27100336	WASHER 8.4	1
1340	0C27100331	WASHER ; SPRING A8	1

22.0L DIESEL — OIL PIPE (TURBOCHARGER)



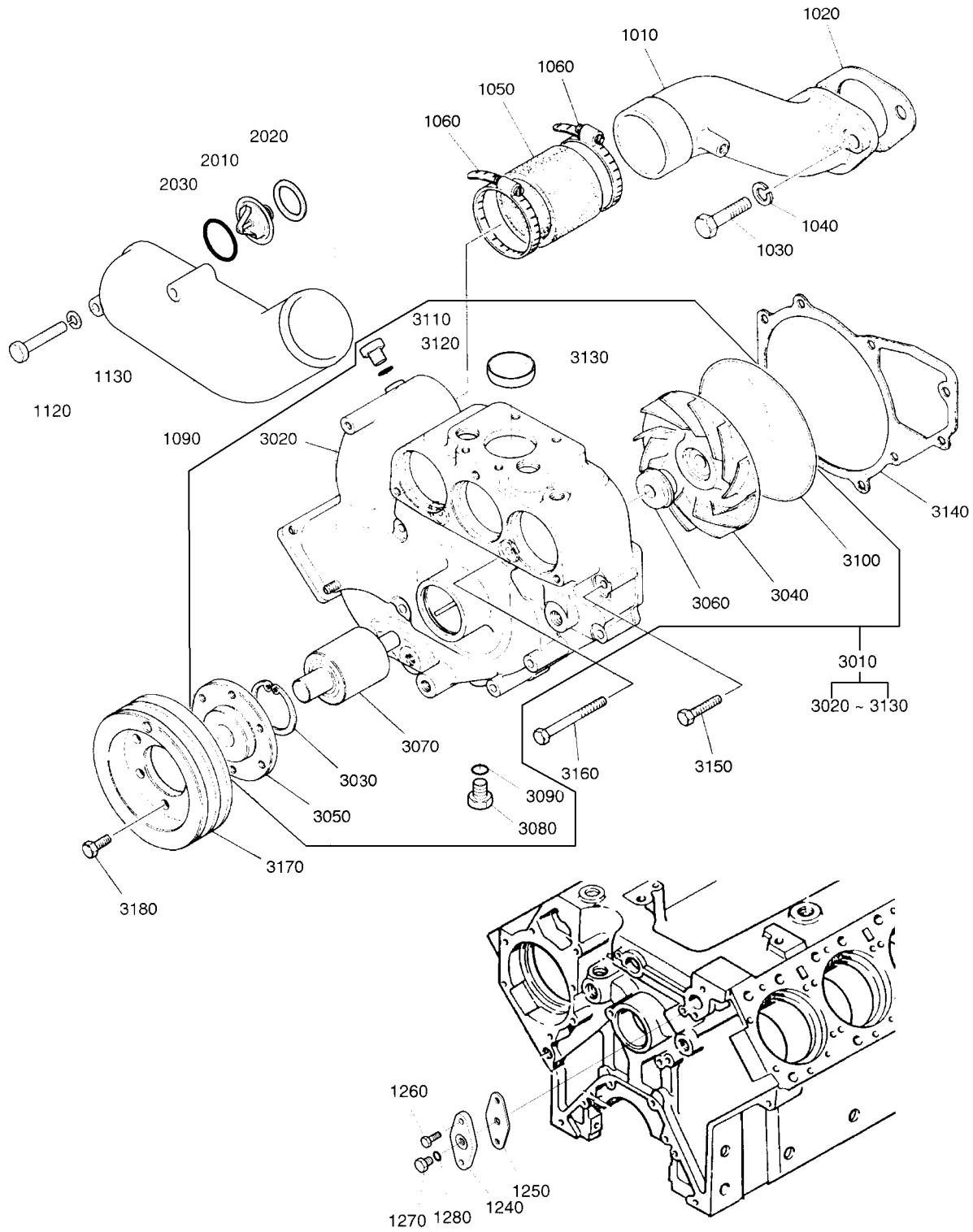
22.0L DIESEL — OIL PIPE (TURBO CHARGER)

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930296	PIPE ; OIL	1
1020	0C46930297	PIPE ; OIL	1
1060	0C46930298	GASKET ; FLANGE	2
1070	0C27100364	BOLT ASS'Y M8X22	4
1090	0C46930300	UNION ; BANJO	1
1100	0C27100400	RING ; SEAL A14X20	4
1110	0C46930301	SCREW ; HOLLOW	1
1120	0C46930302	SPACER	1
1130	0C46930303	CLIP ; PIPE	1
1140	0C27100364	BOLT ASS'Y M8X22	4
1150	0C46930304	PIPE ; OIL	1
1160	0C46930305	PIPE ; OIL	1
1170	0C46930306	ADAPTER	1
1190	0C46930308	PIPE ; OIL	1
1200	0C46930309	SCREW ; HOLLOW	1
1210	0C46930310	PLUG ; SCREW M26X1.5	1
1220	0C46930307	RING ; SEAL A26X32	4
1230	0C27100373	HOSE ; RUBBER	1
1240	0C46930178	CLAMP ; HOSE NW S20	2
1250	0C27100371	GASKET ; FLANGE	2
1260	0C27100364	BOLT ASS'Y M8X22	4

22.0L DIESEL — OIL PAN

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930299	PAN ; OIL	1
1020	0C46930311	PLUG ; SCREW M14X1.5	1
1040	0C46930312	JOINT ; DRAIN ASS'Y	1
1070	0C46930307	RING ; SEAL A26X32	1
1080	0C46930313	GASKET ; OIL PAN	1
1090	0C46930314	BOLT ASS'Y M8X35	17
1100	0C46930259	BOLT ; HEX. M8X140	3
1110	0C27100331	WASHER ; SPRING A8	3
1120	0C27100261	WASHER ; PLAIN 8.4	3
1130	0C46930316	GUIDE TUBE;OIL LEVEL GAUGE	1
1140	0C27100400	RING ; SEAL A14X20	2
1150	0C46930317	GAUGE ; OIL LEVEL	1
1180	0C46930318	FLANGE	1
1190	0C46930319	GASKET ; OIL FILTER	1
1200	0C46930500	BOLT ASS'Y M10X30	4

22.0L DIESEL — COOLING WATER PIPE

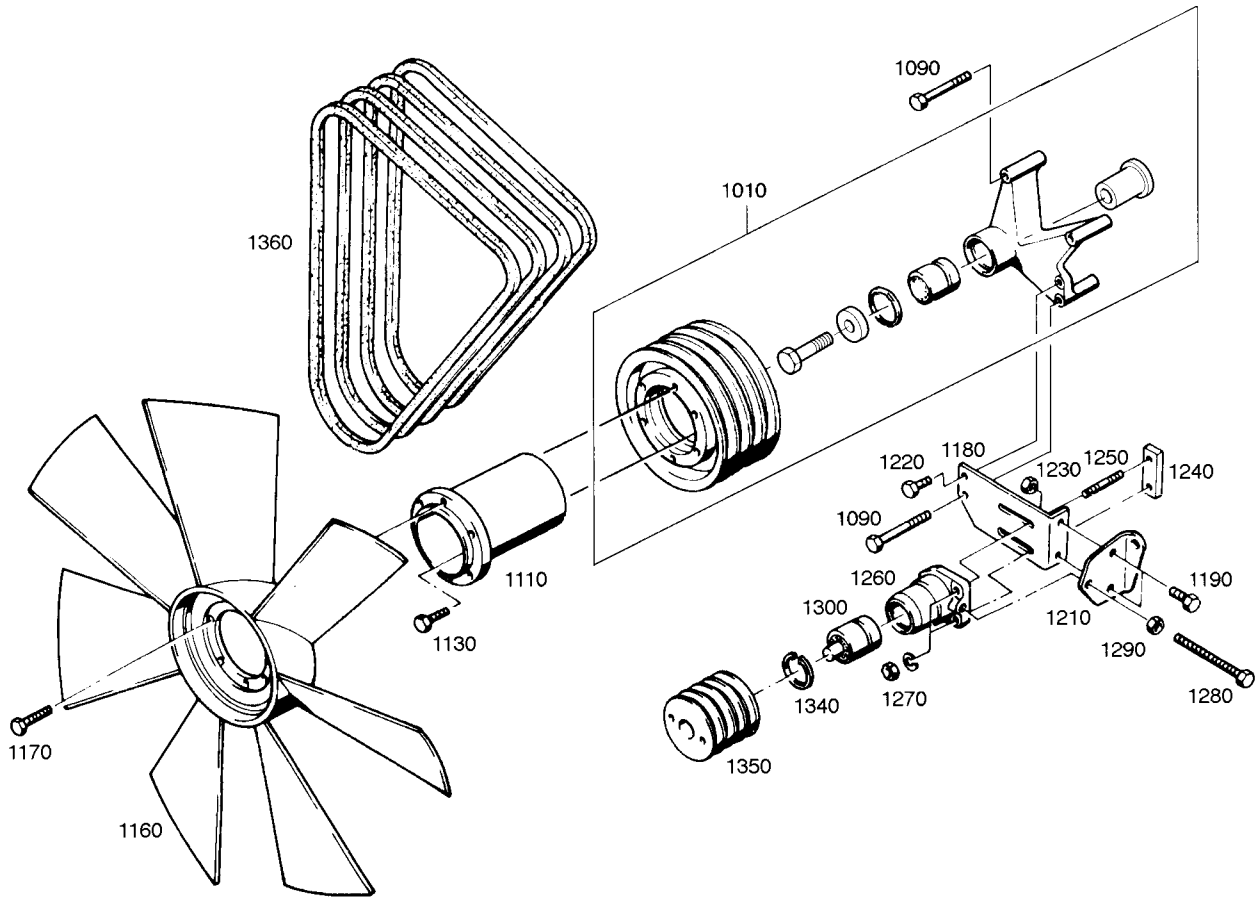


22.0L DIESEL — COOLING WATER PIPE

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930320	PIPE ; COOLING WATER	1
1020	0C46930321	GASKET ; WATER PIPE	1
1030	0C46930149	BOLT ASS'Y M12X35	2
1040	0C27100234	WASHER ; PLAIN 12	2
1050	0C46930322	HOSE ; RUBBER	1
1060	0C46930323	CLAMP ; HOSE NEW64	2
1090	0C46930324	PIPE ; COOLING WATER	1
1120	0C46930325	BOLT ; HEX. M8X60	3
1130	0C46930253	WASHER ; SPRING	3
1240	0C46930326	CONNECTION	1
1250	0C46930327	GASKET ; FLANGE	1
1260	0C46930328	BOLT ASS'Y M10X30	2
1270	0C46930329	SCREW ; PLUG AM14X1.5	1
1280	0C27100400	RING ; SEAL A14X20	1
2010	0C46930330	ELEMENT ; THERMOSTAT	3
2020	0C46930331	O-RING 60X4	3
2030	0C46930332	GASKET ; THERMOSTAT	3
3010	0C46930333	WATER PUMP ASS'Y	1
3140	0C46930334	GASKET ; WATER PUMP	1
3150	0C46930335	BOLT ; HEX. M8X55	3
3160	0C27100335	BOLT ASS'Y M8X85	3
3170	0C46930337	PULLEY ; V-BELT	1
3180	0C46930338	BOLT ASS'Y M8X12	6

NOTE: ITEMS 3020 THROUGH 3130 SHOWN IN ILLUSTRATION ARE ONLY AVAILABLE AS ITEM #3010, WATER PUMP ASSEMBLY, PART NUMBER 0C46930333.

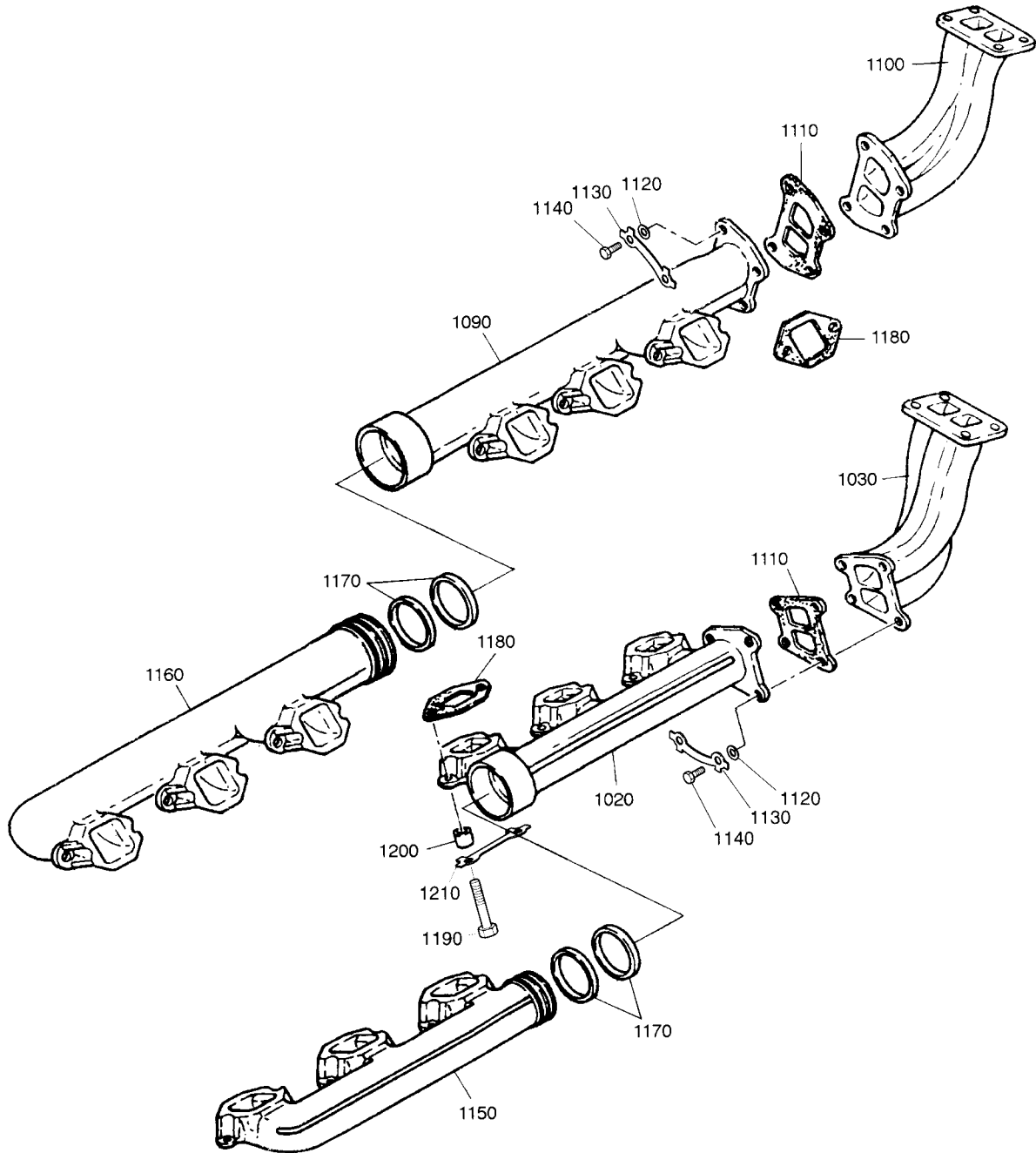
22.0L DIESEL — COOLING FAN & MOUNTING



22.0L DIESEL — COOLING FAN & MOUNTING

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930339	FAN MOUNTING ASS'Y	1
1090	0C46930340	BOLT ASS'Y M10X90	2
1110	0C46930341	FLANGE ; FAN	1
1130	0C27100345	BOLT ASS'Y M8X28	6
1160	0C46930343	FAN ; COOLING	1
1170	0C46930344	BOLT ASS'Y M8X20	6
1180	0C46930345	BRACKET ; IDLE PULLEY	1
1190	0C46930346	BOLT ASS'Y M10X25	2
1210	0C46930347	BRACKET ; IDLE PULLEY	1
1220	0C46930276	BOLT ; HEX. M10X35	2
1230	0C46930348	NUT ; HEX. M10	2
1240	0C46930349	BRACKET ; IDLE PULLEY	1
1250	0C46930350	BOLT ; STUD M10X35	2
1260	0C46930351	BRACKET ; IDLE PULLEY	1
1270	0C46930348	NUT ; HEX. M10	2
1280	0C46930352	BOLT ; HEX. M10X100	1
1290	0C46930353	NUT HEX. M10	1
1300	0C46930354	BEARING ; BALL	1
1340	0C46930355	RING ; SNAP 55X2	1
1350	0C46930356	PULLEY ; IDLE	1
1360	0C46930357	BELT ; V TYPE	2

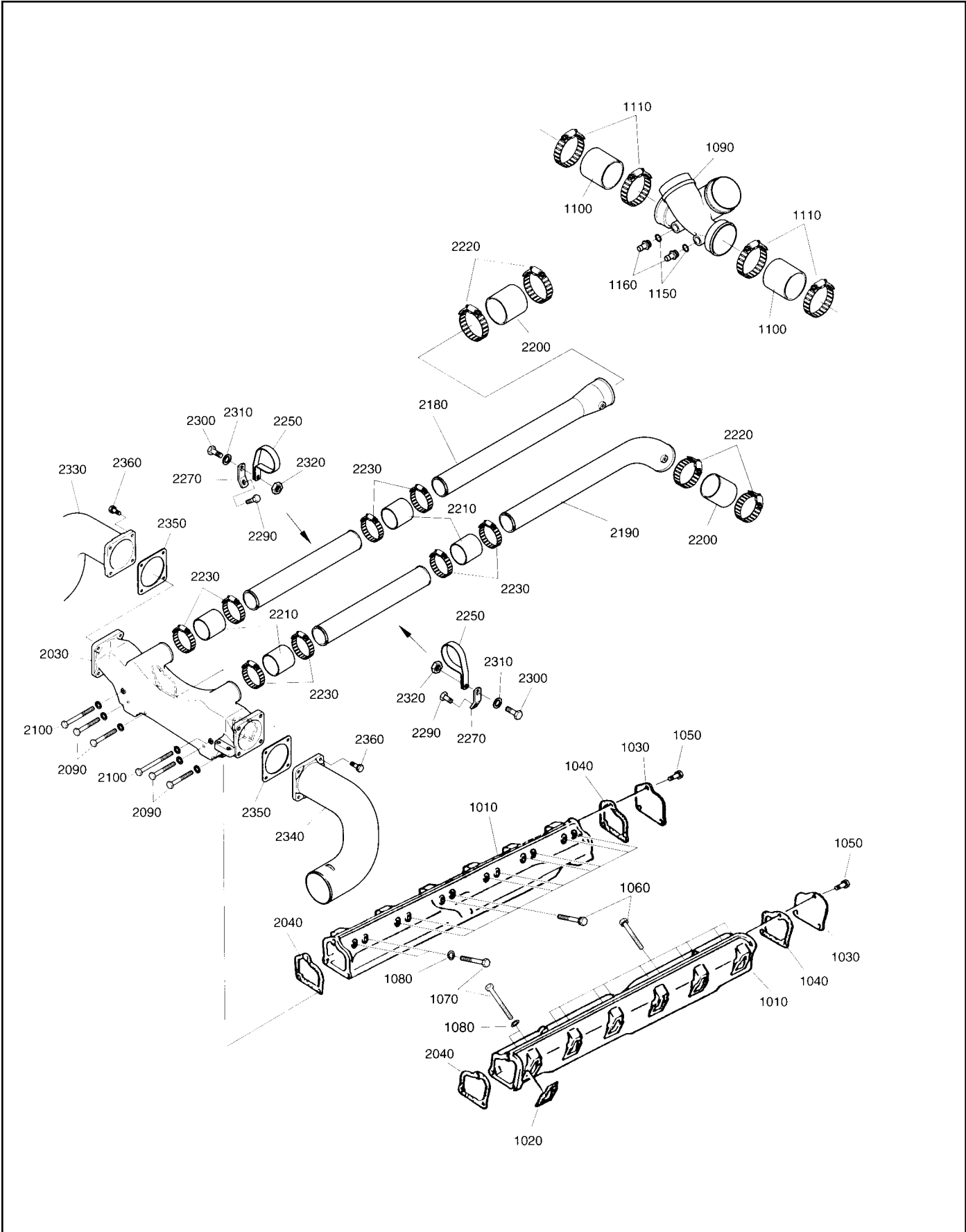
22.0L DIESEL — EXHAUST MANIFOLD



22.0L DIESEL — EXHAUST MANIFOLD

ITEM	PART NUMBER	DESCRIPTION	QTY
1020	0C46930358	MANIFOLD ; EXHAUST	1
1030	0C46930359	MANIFOLD ; EXHAUST	1
1090	0C46930364	MANIFOLD ; EXHAUST	1
1100	0C46930365	MANIFOLD ; EXHAUST	1
1110	0C46930360	GASKET ; EXHAUST MANIFOLD	2
1120	0C46930361	WASHER	8
1130	0C46930362	WASHER ; LOCK	4
1140	0C46930363	BOLT ; HEX.	8
1150	0C46930366	MANIFOLD ; EXHAUST	1
1160	0C46930367	MANIFOLD ; EXHAUST	1
1170	0C46930368	GASKET ; METAL	4
1180	0C46930369	GASKET ; EXHAUST MANIFOLD	12
1190	0C46930370	BOLT ; HEX.	24
1200	0C46930371	SPACER	24
1210	0C46930372	WASHER ; LOCK	12

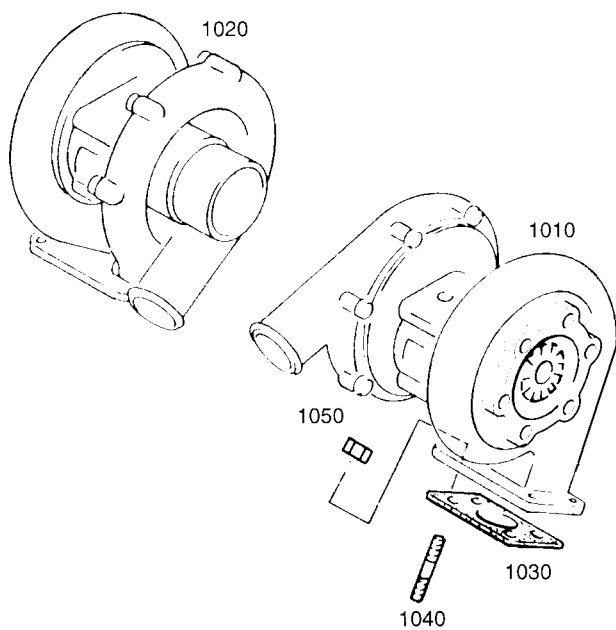
22.0L DIESEL — INTAKE MANIFOLD



22.0L DIESEL — INTAKE MANIFOLD

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930373	MANIFOLD ; INTAKE	2
1020	0C46930374	GASKET ; INTAKE MANIFOLD	12
1030	0C46930375	COVER	2
1040	0C46930376	GASKET ; INTAKE MANIFOLD	2
1050	0C27100299	BOLT ASS'Y M8X18	6
1060	0C46930378	BOLT ASS'Y M8X110	16
1070	0C46930379	BOLT ; HEX. M8X120	8
1080	0C46930253	WASHER ; SPRING	8
1090	0C46930380	STAKE ; INTAKE	1
1100	0C46930381	HOSE ; RUBBER	2
1110	0C46930382	CLAMP ; HOSE	4
1150	0C46930383	NIPPLE	2
1160	0C46930114	RING ; SEAL 26X31	2
2030	0C46930384	INLET	1
2040	0C46930376	GASKET ; INTAKE MANIFOLD	2
2090	0C46930379	BOLT ; HEX. M8X120	4
2100	0C46930385	BOLT ; HEX. M8X170	2
2180	0C46930386	INLET	1
2190	0C46930387	INLET	1
2200	0C46930322	HOSE ; RUBBER	2
2210	0C46930388	HOSE ; RUBBER	4
2220	0C46930389	CLAMP ; HOSE, BAND TYPE	4
2230	0C46930390	CLAMP ; HOSE, BAND TYPE	8
2250	0C46930391	CLIP ; PIPE	2
2270	0C46930392	HOLDER	2
2290	0C46930393	BOLT ; HEX.	2
2300	0C46930394	BOLT ; HEX. M8X30	2
2310	0C27100336	WASHER 8.4	2
2320	0C27100262	NUT ; HEX. M8	2
2330	0C46930395	INLET	1
2340	0C46930396	INLET	1
2350	0C46930397	GASKET ; INTERCOOLER	2
2360	0C46930398	BOLT ASS'Y M12X35	8

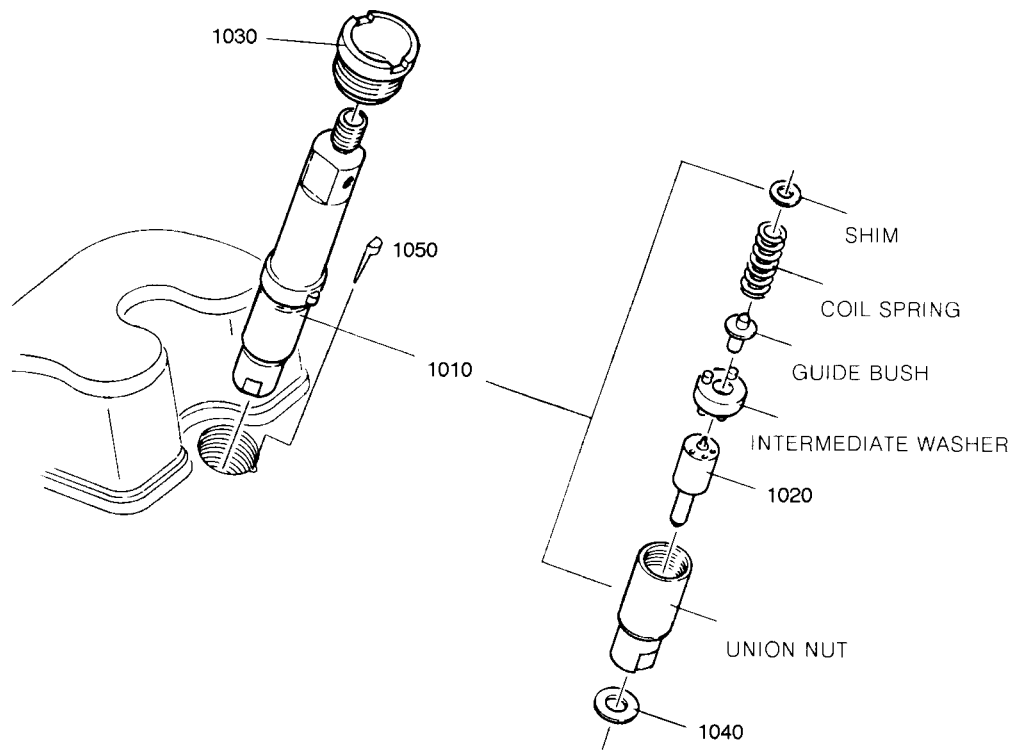
22.0L DIESEL — TURBO CHARGER



22.0L DIESEL — TURBO CHARGER

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930399	TURBO CHARGER ASS'Y	1
1020	0C46930400	TURBO CHARGER ASS'Y	1
1030	0C46930401	GASKET ; TURBO CHARGER	2
1040	0C46930402	BOLT ; STUD	20
1050	0C46930403	NUT ; HEX. M10	8

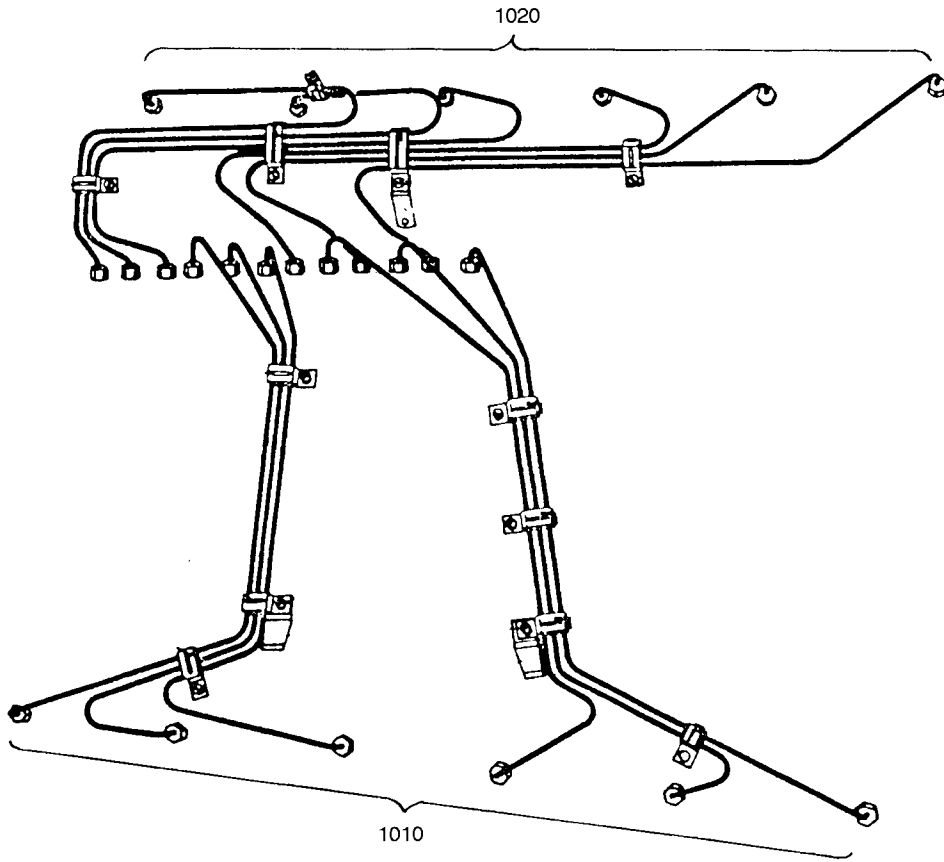
22.0L DIESEL — NOZZLE & HOLDER



22.0L DIESEL — NOZZLE & HOLDER

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930404	NOZZLE & HOLDER ASS'Y	12
1020	0C46930405	NOZZLE	12
1030	0C46930406	SCREW ; PRESSURE	12
1040	0C46930407	RING ; SEAL	12
1050	0C46930408	SEAL ; NOZZLE HOLDER	12

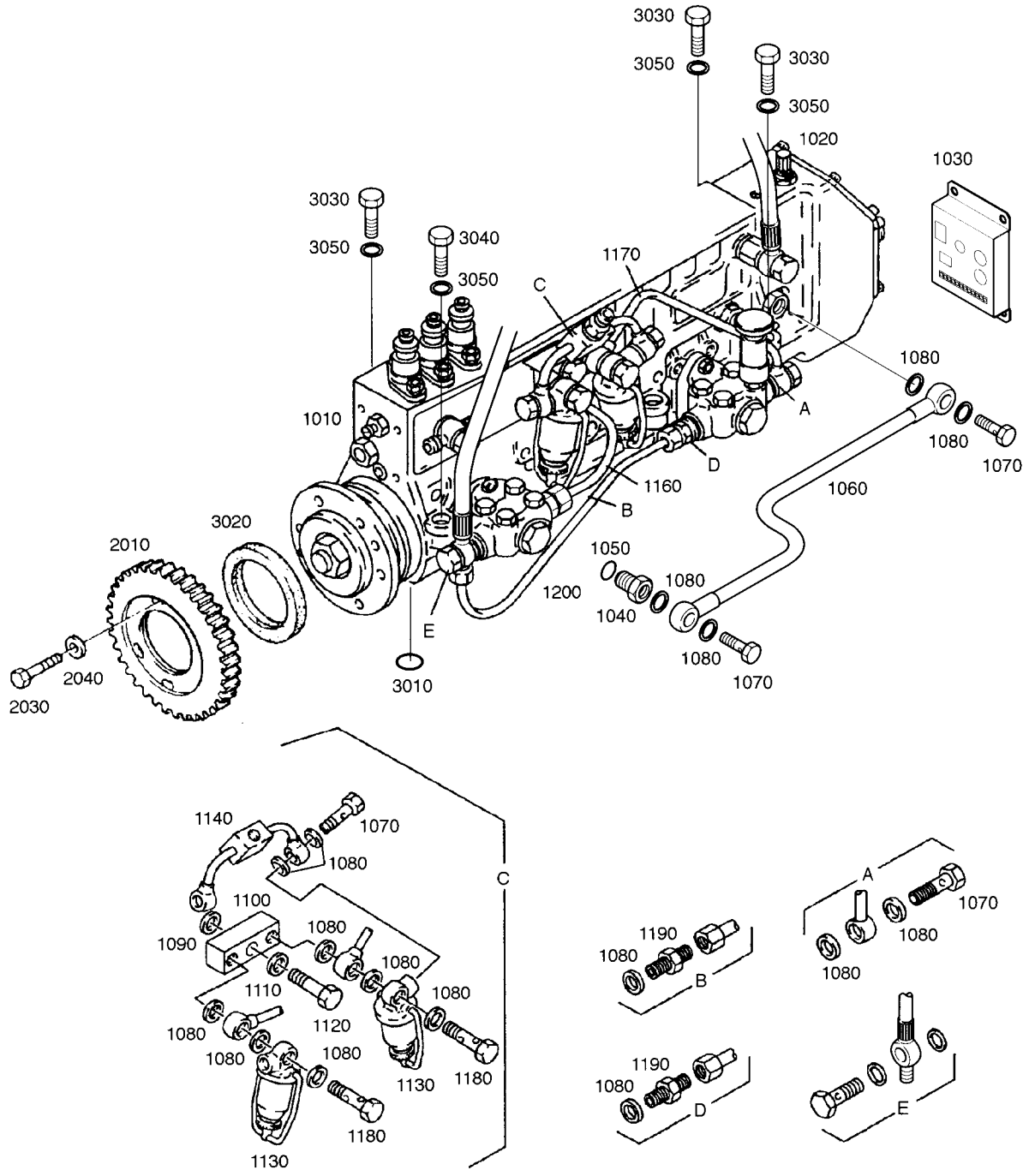
22.0L DIESEL — FUEL INJECTION PIPE



22.0L DIESEL — FUEL INJECTION PIPE

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930409	PIPE ; INJECTION	1
1020	0C46930410	PIPE ; INJECTION	1

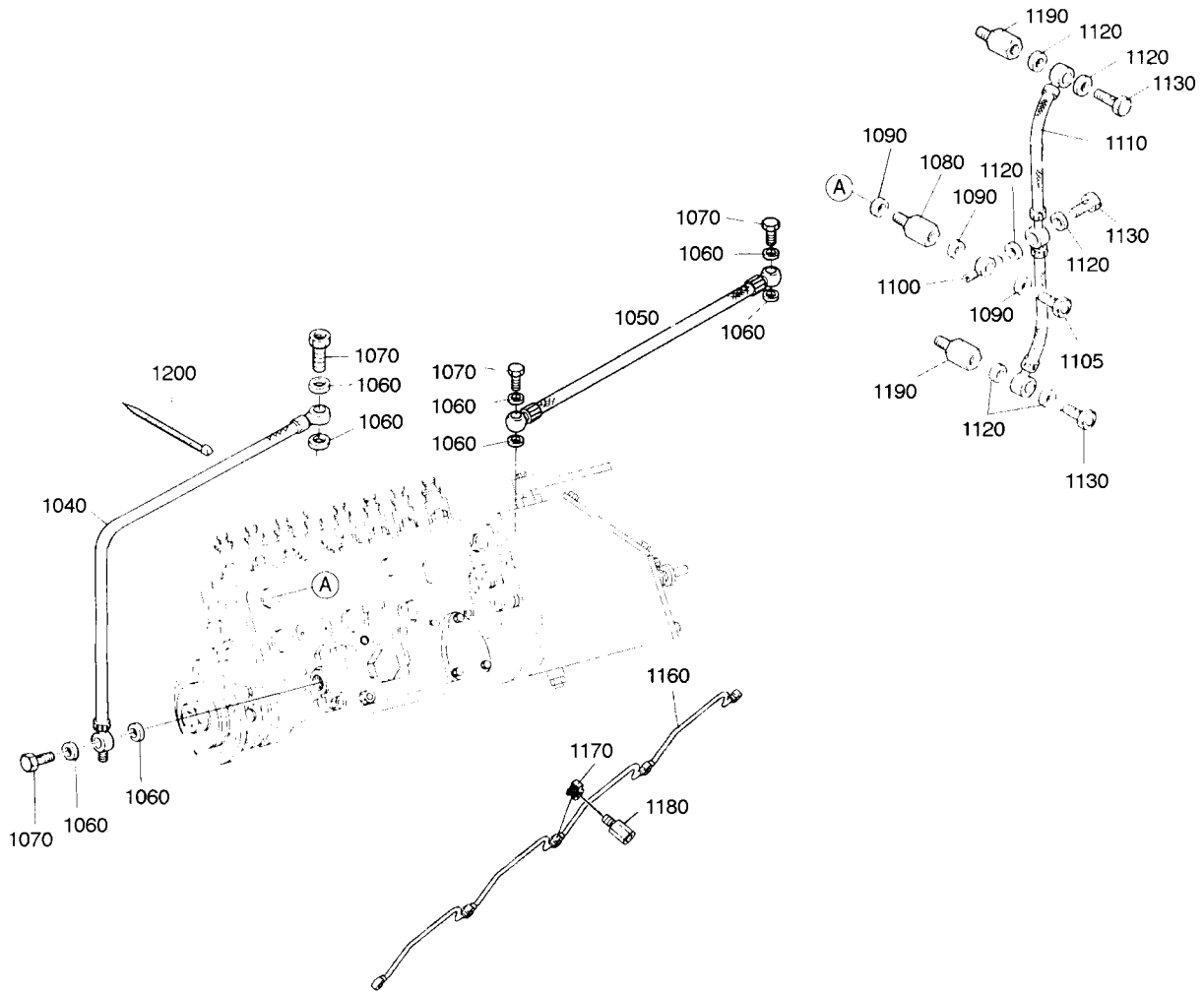
22.0L DIESEL — FUEL INJECTION PUMP



22.0L DIESEL — FUEL INJECTION PUMP

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930411	INJECTION PUMP	1
1020	0C46930412	GOVERNOR ASS'Y	1
1030	0C46930413	CONTROLLER ; ACTUATOR	1
1040	0C46930414	ADAPTER	1
1050	0C46930114	RING ; SEAL 26X31	1
1060	0C46930415	PIPE ; OIL	1
1070	0C46930416	SCREW ; HOLLOW NW10	21
1080	0C27100400	RING ; SEAL A14X20	12
1090	0C46930417	WASHER 17	1
1100	0C46930418	PIECE ; CONNECTION	1
1110	0C46930419	WASHER ; SPRING B14	1
1120	0C46930420	BOLT ; HEX. M14X1.5X40	1
1130	0C46930421	FUEL FILTER ASS'Y	2
1140	0C46930422	PIPE ; FUEL	1
1160	0C46930423	PIPE ; FUEL	1
1170	0C46930424	PIPE ; FUEL	1
1180	0C46930425	SCREW ; HOLLOW	2
1190	0C46930426	SCREW ; CONNECTION	2
1200	0C46930427	PIPE ; FUEL	1
2010	0C46930428	GEAR;DRIVE, INJECTION PUMP	1
2030	0C46930429	BOLT ; HEX. M8X18	6
2040	0C46930430	WASHER ; END COVER	6
3010	0C46930431	O-RING	1
3020	0C46930432	O-RING	1
3030	0C46930244	BOLT ; HEX.	5
3040	0C46930433	BOLT ; HEX. M10X100	1
3050	0C46930434	WASHER ; BALL C10.5	6

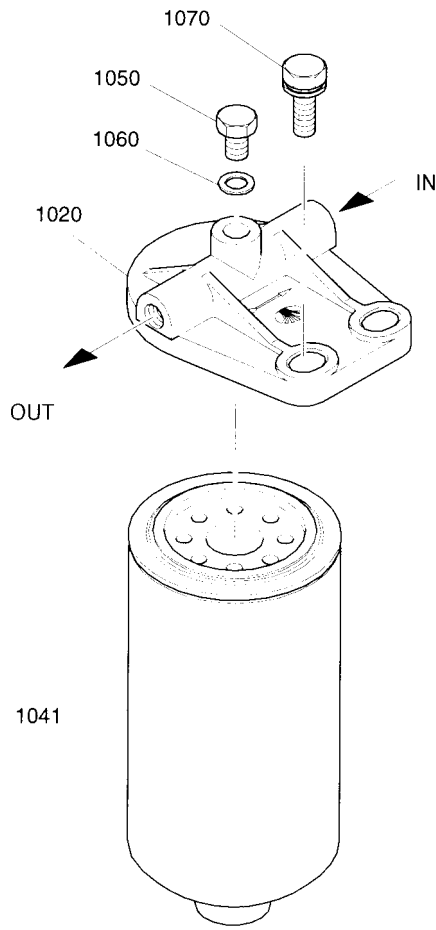
22.0L DIESEL — FUEL HOSE



22.0L DIESEL — FUEL HOSE

ITEM	PART NUMBER	DESCRIPTION	QTY
1040	0C46930435	HOSE ; RUBBER, RING JOINT	1
1050	0C46930436	HOSE ; RUBBER, RING JOINT	1
1060	0C27100400	RING ; SEAL A14X20	6
1070	0C46930416	SCREW ; HOLLOW NW10	2
1080	0C46930437	ADAPTER	1
1090	0C46930438	RING ; SEAL	3
1100	0C46930439	UNION ; BANJO, DOUBLE	1
1105	0C46930440	VALVE ; OVER FLOW	1
1110	0C46930441	TUBE	1
1120	0C27100382	RING ; SEAL A8X14	6
1130	0C46930443	SCREW ; HOLLOW	3
1160	0C46930444	PIPE ;FUEL	2
1170	0C46930445	O-RING	12
1180	0C46930446	SCREW ; HOLLOW	10
1190	0C46930447	SCREW ; HOLLOW	2
1200	0C46930448	BAND ; TENSION	4

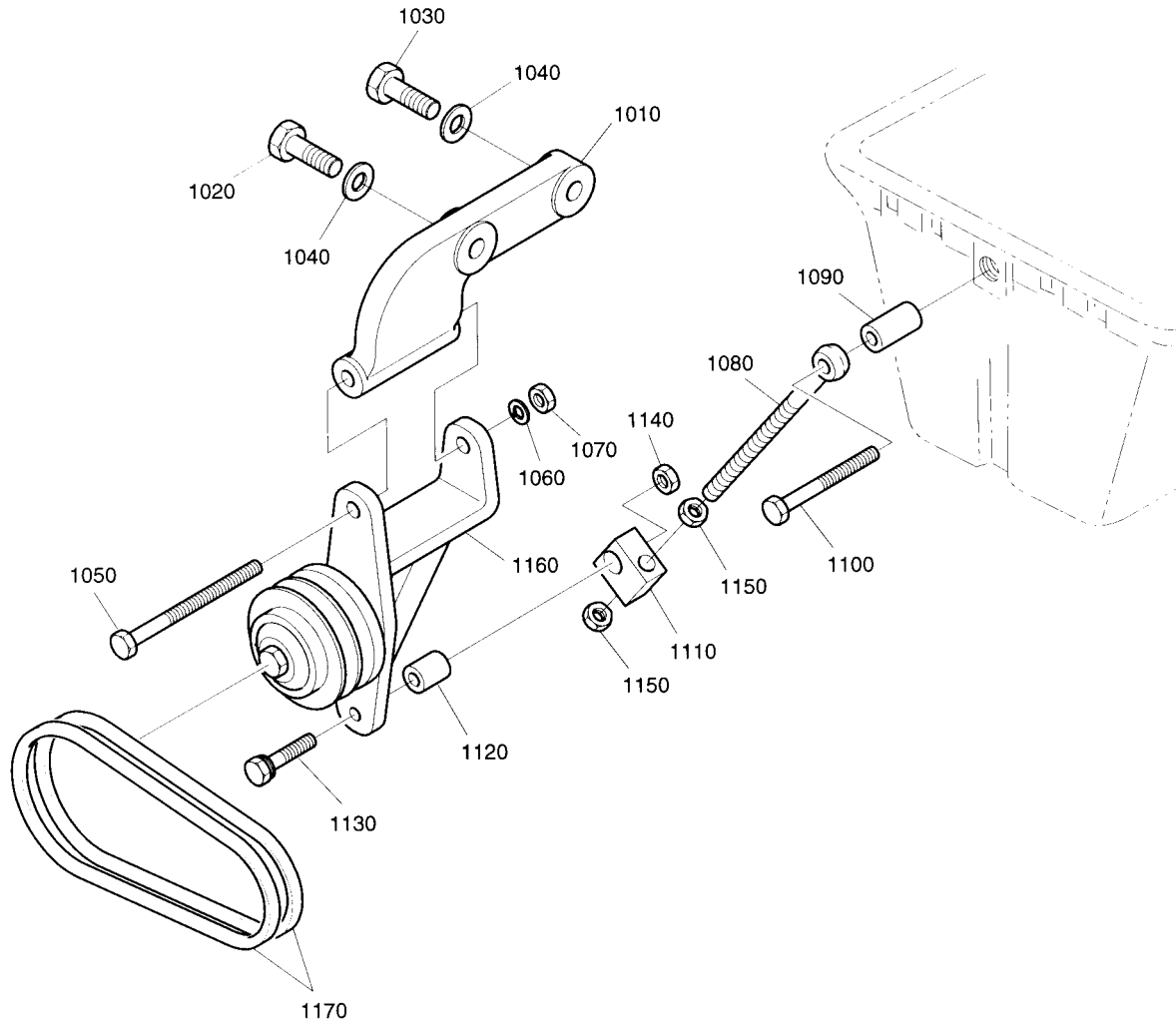
22.0L DIESEL — FUEL FILTER



22.0L DIESEL — FUEL FILTER

ITEM	PART NUMBER	DESCRIPTION	QTY
1020	0C46930449	COVER ; FUEL FILTER	1
1041	0C46930450	ELEMENT ; FUEL FILTER	1
1050	0C46930451	SCREW ; PLUG	1
1060	0C46930452	RING ; SEAL A10X16	1
1070	0C46930398	BOLT ASS'Y M12X35	2

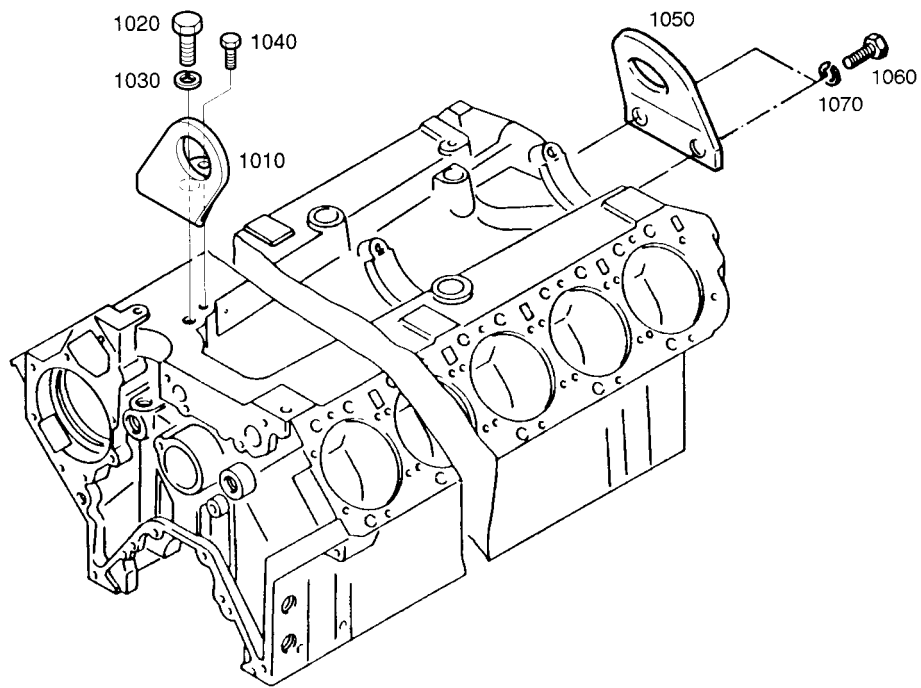
22.0L DIESEL — ALTERNATOR & DRIVE



22.0L DIESEL — ALTERNATOR & DRIVE

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930453	BRACKET;ALTERNATOR MOUNTING	1
1020	0C46930454	BOLT M14X45	1
1030	0C46930455	BOLT ; HEX. M14X45	1
1040	0C46930456	WASHER ; PLAIN NW14	2
1050	0C46930457	BOLT ; HEX. M10X130	1
1060	0C27100420	WASHER ; SPRING A12	1
1070	0C46930458	NUT ; HEX. M12	1
1080	0C46930459	BOLT ; SPACER	1
1090	0C46930460	SPACER	1
1100	0C46930461	BOLT ; HEX. M10X1.5X95	1
1110	0C46930463	PIECE ; GUIDE	1
1120	0C46930464	BUSH	1
1130	0C46930465	BOLT ASS'Y M10X50	1
1140	0C46930348	NUT ; HEX. M10	1
1150	0C46930458	NUT ; HEX. M12	2
1160	0C46930466	IDLE PULLEY ASS'Y	1
1170	0C46930467	BELT ; V TYPE	1

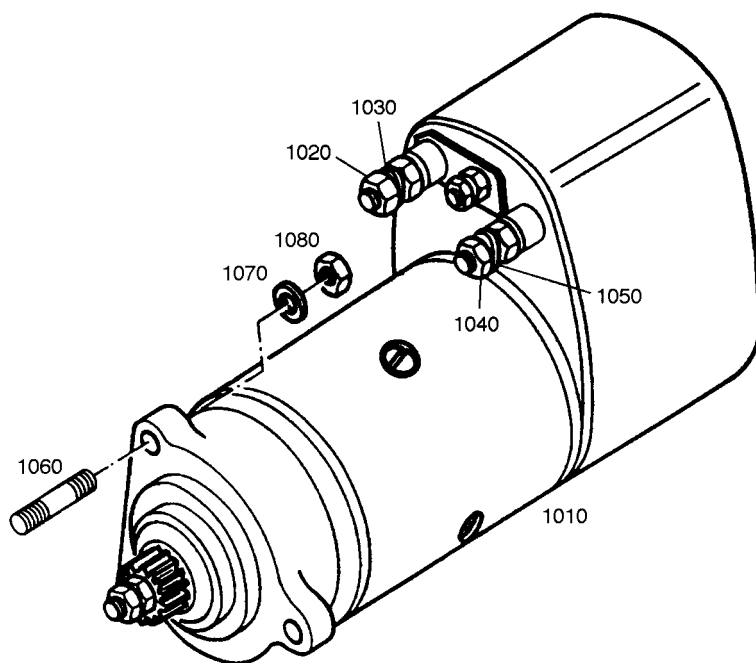
22.0L DIESEL — ENGINE LIFTING HOOK



22.0L DIESEL — ENGINE LIFTING HOOK

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930468	HOOK ; LIFTING	1
1020	0C46930469	BOLT ; HEX. M20X40	1
1030	0C46930470	WASHER ; SPRING A20	1
1040	0C46930471	BOLT ASS'Y M10X25	1
1050	0C46930472	HOOK ; LIFTING	1
1060	0C46930473	BOLT ; HEX. M16X2X40	2
1070	0C46930474	WASHER ; SPRING A16	2

22.0L DIESEL — STARTER



22.0L DIESEL — STARTER

ITEM	PART NUMBER	DESCRIPTION	QTY
1010	0C46930475	STARTER	1
1020	0C46930458	NUT ; HEX. M12	1
1030	0C27100420	WASHER ; SPRING A12	1
1040	0C46930348	NUT ; HEX. M10	1
1050	0C27100323	WASHER ; SPRING A10	1
1060	0C46930477	BOLT ; STUD	3
1070	0C46930294	WASHER ; SPRING A12	3
1080	0C46930478	NUT ; HEX. M12X1.5	3

Ultimate Service Dealers (USD's)

A/C Energy (IL, WI, IN)

3320 Louise Ave
Steger, IL 60475
Parts: 800-800-0822
Ph: 708-758-2007
Fx: 708-758-2031

AAA Generator & Pump, Inc.

2546 Franklin St.
Ft. Myers, FL 33901
Parts: 800-441-0906
Ph: 941-332-1136
Fx: 941-332-8655

Alliance Energy Services

1715 Lake Drive West
Chanhassen, MN 55317
Parts: 888-353-7044
Ph: 952-448-6313
Fx: 952-448-9302

ARRCO Company Services, Inc.

9918 S. Perdue Ave.
Baton Rouge, LA 70814
Parts: 877-706-2722
Ph: 225-275-2722
Fx: 225-275-1198

Billiou's, Inc.

(CA, NV, UT, CO, AZ, ID, OR, WA, AK, HI)
1343 S. Main St.
Porterville, CA 93257
Parts: 800-245-5468 (dlr)
877-245-5468 (end users)
Ph: 559-784-4102
Fx: 559-781-1875

Clifford Power Systems

(KS, OK, AR, MO, TX no. of I-20)
9310 E. 46th St., No.
Tulsa, OK 74117
Parts: 800-324-0066
Ph: 918-836-0066
Fx: 918-836-0094

Clifford Power Systems

101 Industrial Blvd.
Mansfield, TX 76063
Parts: 800-886-9203
Ph: 817-640-5544
Fx: 817-453-0219

Comet Industrial Products

(KS, MO, NE)
4800 Deramus
Kansas City, MO 64120-1186
Parts: 888-700-4214
Ph: 816-245-5432
Fx: 816-245-5435

Dixie Sales Company, Inc.

P. O. Box 1408
Greensboro, NC 27402-1408
Parts: 800-753-4943
Ph: 336-375-7500
Fx: 800-535-2862 or 336-621-3555

EGN Distributing

(AL, FL - Panhandle)
2805 6th Ave., So.
Birmingham, AL 35233
Parts: 800-824-0139
Ph: 205-581-1335
Fx: 205-581-1337

Energy Systems, Inc.

(CA, NV, UT)
2619 Lycoming St. #100
Stockton, CA 95206
Parts: 800-250-8085
Ph: 209-983-6900
Fx: 209-983-8919

Frontier Equipment, Ltd.

8029 River Way
Delta, BC Canada V4G 1G9
Parts: 877-946-5531
Ph: 604-946-5531
Fx: 604-946-8524

Hunter & Lomison

(PA, NY - west of I-81)
1956 W. Fourth St.
Williamsport, PA 17701
Parts: 800-922-9540
Ph: 570-326-1764
Fx: 570-326-5042

Huntington Power Co.

(ME, VT, NH, Ea. NY, MA, CT, RI, NJ)
8 Algonkin Rd.
Shelton, CT 06484
Parts: 800-473-1408
So. Windsor: 860-289-8790
Ph: 203-929-3203
Fx: 800-473-7817

Indiana Power & Supply

(KY, OH, IN)
1415 Country Club Rd.
Indianapolis, IN 46234
Parts: 800-229-1672
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Miami, FL 33130
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