Form No. 3323–915

# Dingo® 320–D

## Compact Utility Loader

**Model No. 22303TE—210000001 and Up**

# Parts Catalog

### Ordering Replacement Parts

To order replacement parts, please supply: the part number, the quantity, and the description of each part desired.

### Understanding Reference Numbers

Each identified part in an illustration has a reference number. The reference number for a part also appears in the parts list, along with other information about the part.

This catalog uses two special reference number formats, one to indicate parts in a service assembly and another to indicate the quantity of a given part in an illustration.

#### Service Assembly Reference Numbers

Parts in service assemblies have reference numbers in the form **a:b.** The **a** represents the reference number of the entire service assembly and the **b** represents a sequential number unique to each part within the service assembly.

For example, a wheel assembly might be identified by reference number **6**, the tire by **6:1**, the valve by **6:2**, and the wheel by **6:3**. When you order the assembly identified by reference number 6, you receive all parts identified by reference numbers 6:1, 6:2, and 6:3. However, you may also order any part individually.

Reference numbers of this type appear in illustrations and in part lists.

#### Reference Numbers Indicating Quantity

In an illustration, if a reference number indicates more than one part, the reference number has the form **nX y.** The **n** represents the quantity of the part, the **X** is the multiplication symbol, and the **y** represents the reference number.

For example, in an illustration, the reference number **2X 37** means that two of the parts identified by reference number 37 are indicated.

© The TORO Company — 2001
All Rights Reserved

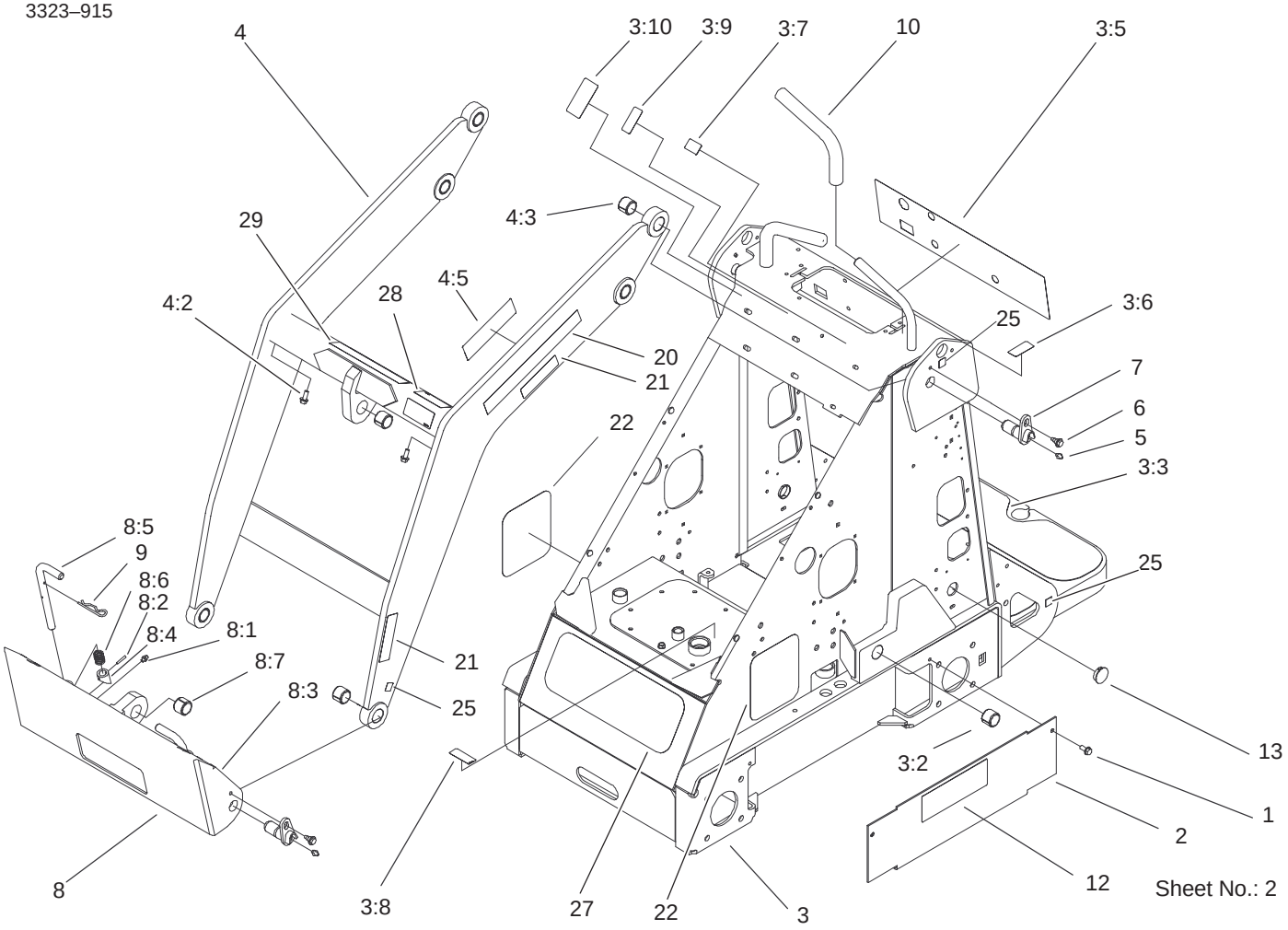
# Contents


| Description | Page |
|---|---|
| Frame and Loader Arm Assembly | 4 |
| Hood and Screen Assembly | 5 |
| Wheel and Motor Assembly | 6 |
| One Line Title | 7 |
| Engine Assembly | 8 |
| Engine Mount Assembly | 9 |
| Fuel Tank and Air Filter Assembly | 10 |
| Air Cleaner Assembly No. 99–3160 | 11 |
| Radiator Mount Assembly | 12 |
| Hydraulic Tank and Filter Assembly | 13 |
| Auxiliary Control Lever Assembly | 14 |
| Hydraulic Valve Assembly | 15 |
| One Line Title | 16 |
| One Line Title | 17 |
| One Line Title | 18 |
| 4–Spool Valve Assembly | 19 |
| One Line Title | 20 |
| Hydraulic Motor Assembly | 21 |
| Hydraulic Cylinder Assembly | 22 |
| One Line Title | 23 |
| Parking Brake Assembly | 24 |
| Rear Cover Assembly | 25 |
| Battery Mount Assembly | 26 |
| Electrical Components Assembly | 27 |
| Electrical Schematic | 28 |
| Hydraulic Schematic | 29 |
| Crankcase Assembly | 30 |
| Oil Pan Assembly | 31 |
| Cylinder Head Assembly | 32 |
| Gear Case Assembly | 33 |
| Head Cover Assembly | 34 |
| Dipstick and Guide Assembly | 35 |
| Main Bearing Case Assembly | 36 |
| Camshaft Assembly | 37 |
| Piston and Crankshaft Assembly | 38 |
| Flywheel Assembly | 39 |
| Fuel Camshaft Assembly | 40 |
| Engine Stop Lever Assembly | 41 |
| Injection Pump Assembly | 42 |
| Injection Pump (Complete Parts) | 43 |
| Governor Assembly | 44 |
| Speed Control Plate Assembly | 45 |
| Nozzle Holder and Glow Plugs Assembly | 46 |
| Nozzle Holder (Complete Parts) | 47 |
| Fuel Pump (Mechanical) | 49 |
| Dynamo and Pulley Assembly | 50 |
| Dynamo (Complete Parts) | 51 |
| Starter Assembly | 52 |
| Starter (Complete Parts) | 53 |
| Oil Switch and Thermoswitch Assembly | 54 |
| Water Flange and Thermostat Assembly | 55 |
| Water Pump Assembly | 56 |
| Water Pipe Assembly | 57 |
| Valve and Rocker Arm Assembly | 58 |
| Inlet Manifold Assembly | 59 |
| Exhaust Manifold Assembly | 60 |
| Gasket Kit | 61 |

## Part Description Abbreviations

Part descriptions in this catalog may include the following abbreviations.

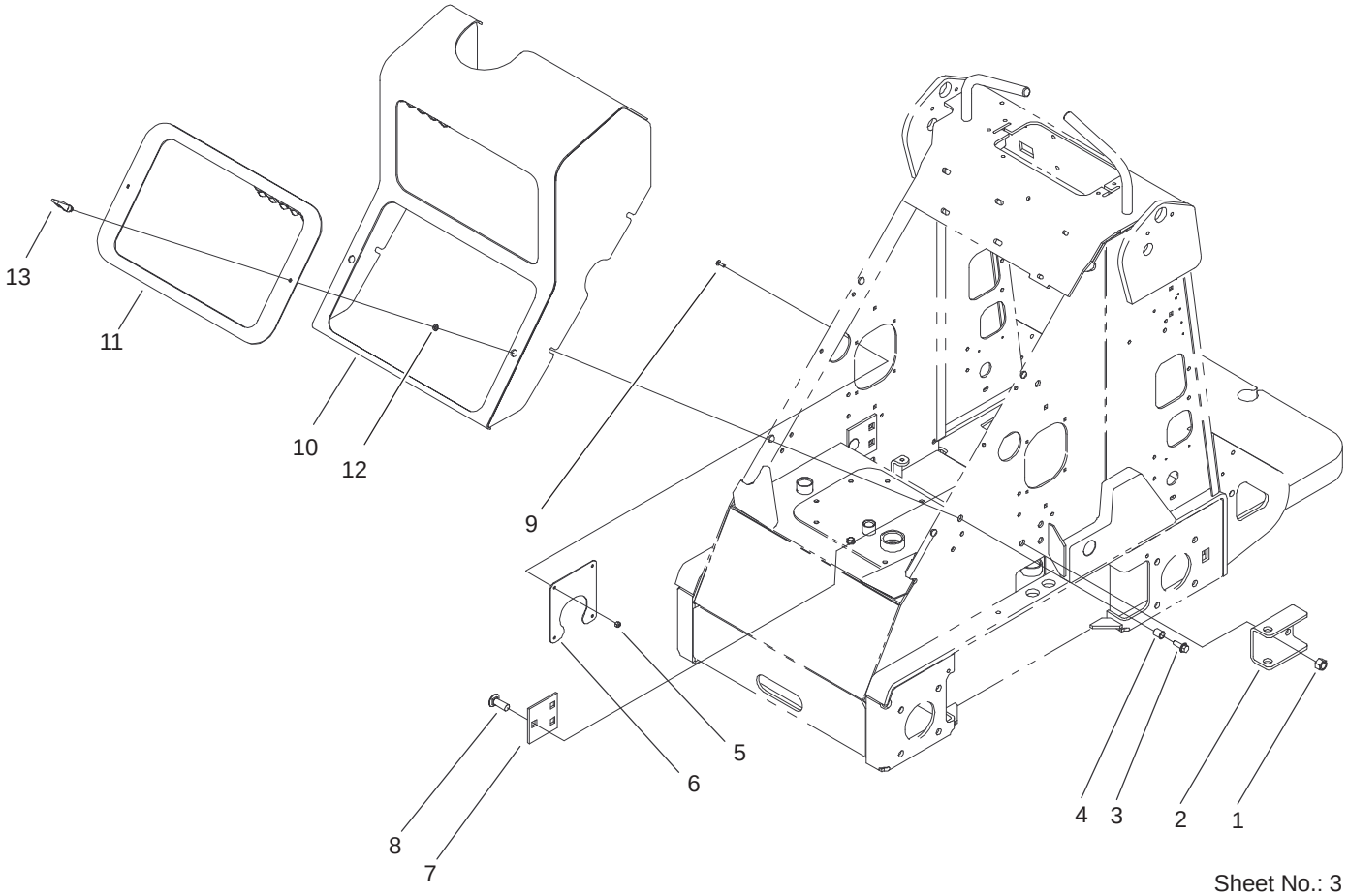
| Abbreviation | Meaning |
|---|---|
| AR | as required |
| ASM | assembly |
| CARR | carriage |
| DEG | degrees |
| FH | flat head |
| GA | gauge |
| HF | hex flange |
| HH | hex head |
| HHF | hex head flange |
| HLH | hex lag head |
| HJ | hex jam |
| HOC | height-of-cut |
| HS | hex socket |
| HSBH | hex socket button head |
| HSFH | hex socket flat head |
| HSH | hex socket head |
| HWH | hex washer head |
| HWHTF | hex washer head thread forming |
| HYD | hydraulic |
| INC | incorporated |
| LH | left hand |
| NI | nylon insert |
| PPH | Phillips pan head |
| PTH | Phillips truss head |
| PTO | power take off |
| RH | right hand |
| SFH | slotted fillister head |
| SHH | slotted hex head |
| SQH | square head |
| SHWH | slotted hex washer head |
| SPH | slotted pan head |
| SRH | slotted round head |
| STD | standard |
| TAP | self tapping |
| TTH | Torx truss head |
| WH | wing head |




# Frame and Loader Arm Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 32144–70 | 6 | Screw–HH |
| 2 | 99–3020–01 | 2 | Cover–Hose |
| 3 | 104–7416 | 1 | Frame ASM |
| 3:2 | 98–4871 | 2 | Bushing–Tension |
| 3:3 | 98–9947 | 2 | Tread–Foot |
| 3:5 | 100–1706 | 1 | Decal–Panel, Control |
| 3:6 | 98–8219 | 1 | Decal–Throttle |
| 3:7 | 100–1703 | 1 | Decal–Limiter, Speed |
| 3:8 | 93–6686 | 1 | Decal–Oil, Hydraulic |
| 3:9 | 98–8235 | 1 | Decal–Selector |
| 3:10 | 100–1704 | 1 | Decal–Power, Auxiliary |
| 4 | 100–8814 | 1 | Loader ASM |
| 4:2 | 32144–70 | 2 | Screw–HH |
| 4:3 | 98–4871 | 7 | Bushing–Tension |
| 4:5 | 100–1701 | 1 | Decal–Danger |
| 5 | 302–5 | 4 | Fitting–Grease |
| 6 | 99–5105 | 4 | Bolt–Shoulder |
| 7 | 99–1414 | 4 | Pin–Pivot |
| 8 | 98–4690 | 1 | Quick Attach ASM |
| 8:1 | 302–5 | 2 | Fitting–Grease |
| 8:2 | 32121–94 | 2 | Pin–Special |
| 8:3 | 98–4691–03 | 1 | Mount–Attach, Quick |
| 8:4 | 98–4692 | 2 | Cam–Attach, Quick |
| 8:5 | 100–3373 | 2 | Pin |
| 8:6 | 98–4694 | 2 | Spring–Compression |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 8:7 | 98–4871 | 1 | Bushing–Tension |
| 9 | 3290–468 | 2 | Pin–Cotter |
| 10 | 98–4845 | 2 | Grip–Cushion |
| 12 | 99–3068 | 2 | Decal–4–Paw |
| 13 | 94–1402 | 2 | Plug–Hole |
| 20 | 99–3167 | 2 | Decal–Dingo 320d |
| 21 | 100–8821 | 4 | Decal–Pinch |
| 22 | 100–8827 | 2 | Decal–Dingo, Side |
| 25 | 93–9084 | 6 | Decal–Point, Lift |
| 27 | 100–8828 | 1 | Decal–Dingo, Front |
| 28 | 100–8822 | 2 | Decal–No Rider |
| 29 | 100–1702 | 1 | Decal–Caution |

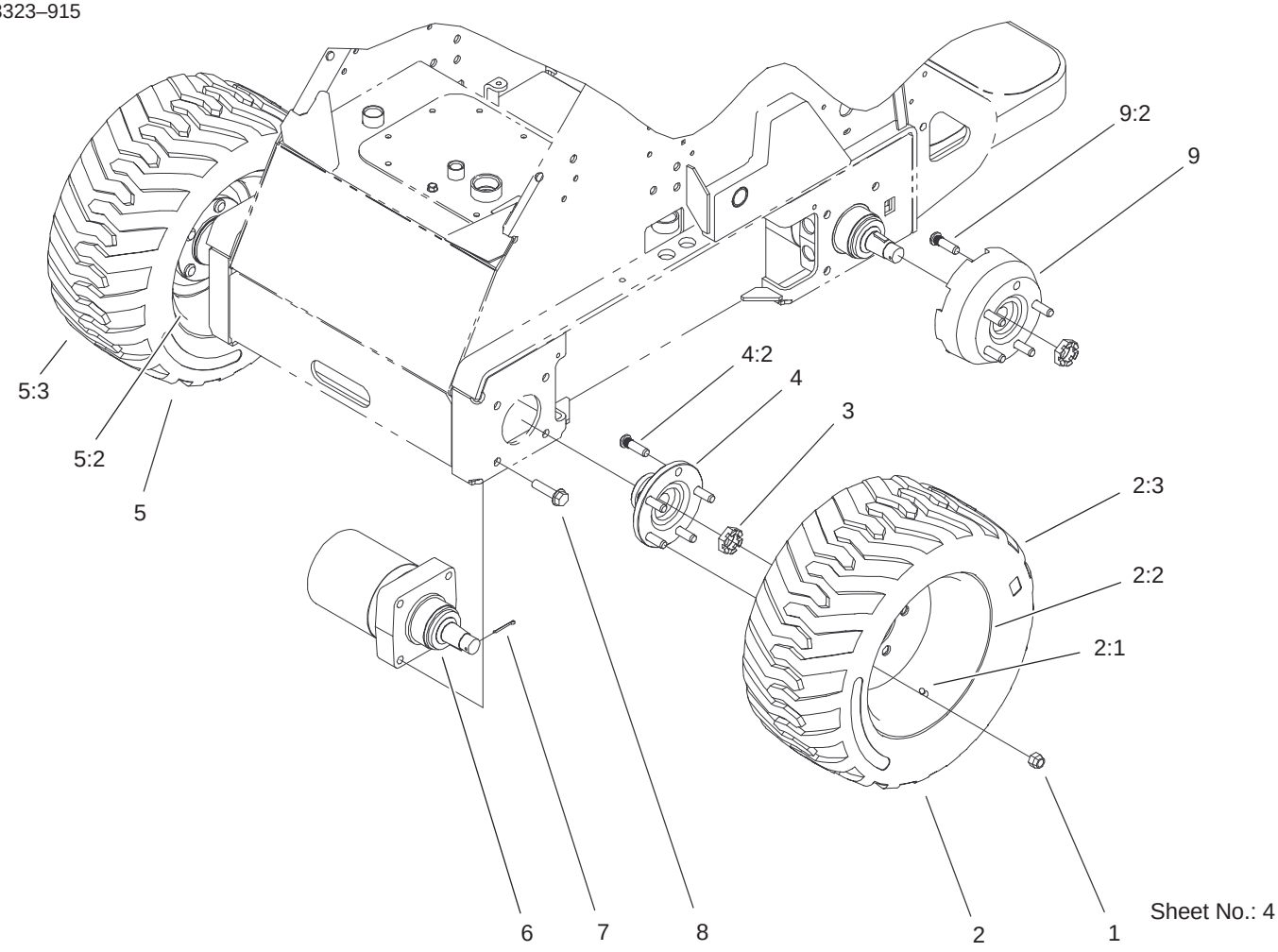



Sheet No.: 3

# Hood and Screen Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 3296–23 | 6 | Nut–Lock, NI |
| 2 | 100–4122–01 | 2 | Bracket–Anchor |
| 3 | 3234–29 | 4 | Screw–HHF |
| 4 | 32148–8 | 4 | Insert–Threaded |
| 5 | 3296–2 | 4 | Nut–Lock |
| 6 | 99–1427–03 | 1 | Guard–Muffler |
| 7 | 100–4116–01 | 2 | Plate–Anchor |
| 8 | 3233–26 | 6 | Screw–CARR |
| 9 | 3229–34 | 4 | Bolt–CARR |
| 10 | 99–3120–03 | 1 | Hood Weld ASM |
| 11 | 99–3118–03 | 1 | Cover, Weld ASM |
| 12 | 99–3058 | 2 | Washer |
| 13 | 74–5950 | 2 | Latch–Swell |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|



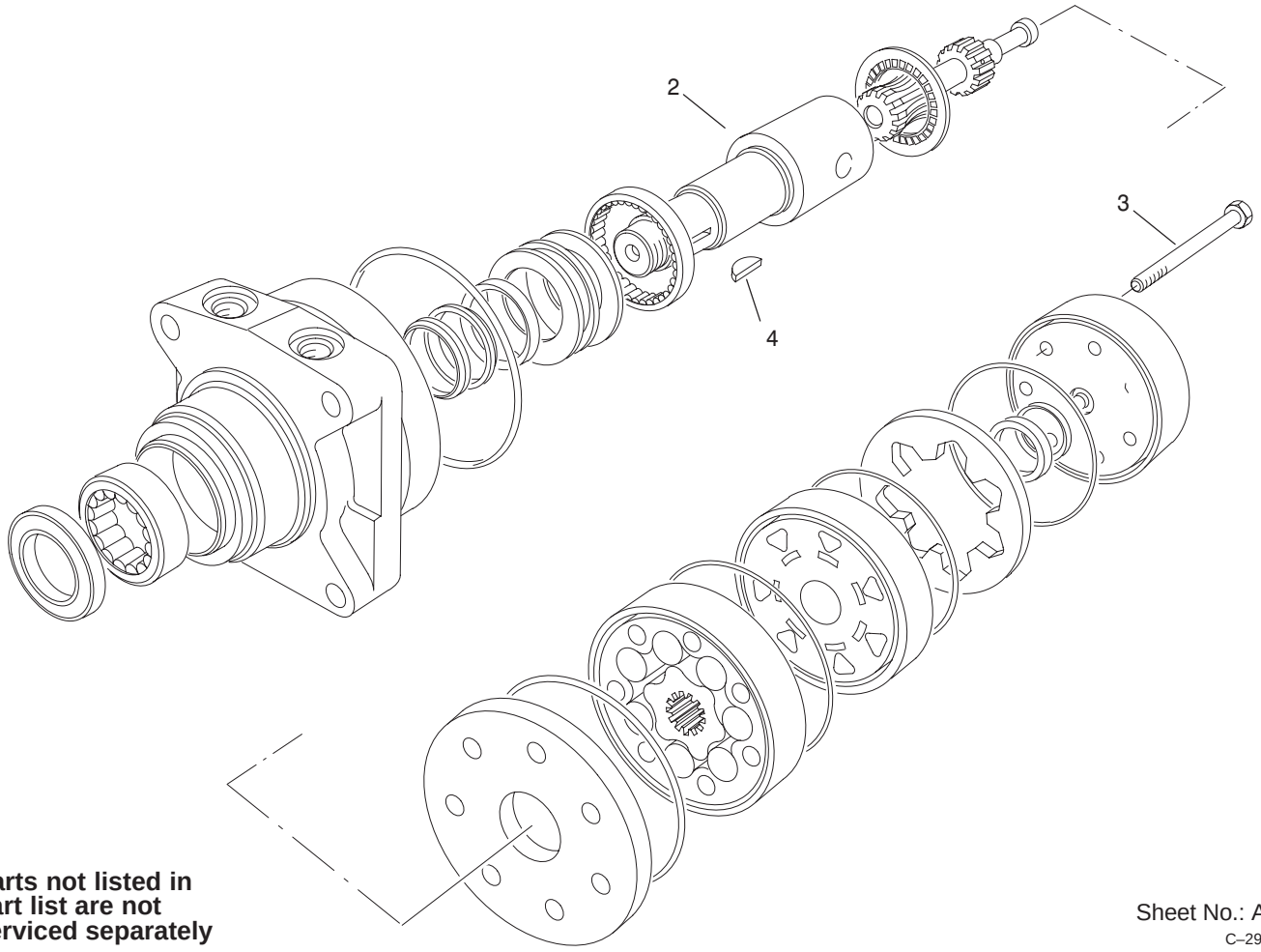

Sheet No.: 4

# Wheel and Motor Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 242–50 | 20 | Nut–Lug |
| 2 | 98–2747 | 2 | LH Wheel & Tire ASM |
| 2:1 | 232–27 | 1 | Stem–Valve |
| 2:2 | 98–2748 | 1 | Wheel |
| 2:3 | 98–2749 | 1 | Tire ,Loader Style |
| 3 | 99–3139 | 4 | Nut–Wheel, Motor |
| 4 | 99–3064 | 2 | Hub ASM |
| 4:2 | 10–6830 | 5 | Stud–Type, Drive |
| 5 | 99–1447 | 2 | RH Wheel & Tire ASM |
| *5:1 | 232–27 | 1 | Stem–Valve |
| 5:2 | 98–2748 | 1 | Wheel |
| 5:3 | 98–2749 | 1 | Tire ,Loader Style |
| 6 | 99–3052 | 4 | Hydraulic Motor ASM |
| 7 | 99–3171 | 4 | Pin – Cotter |
| 8 | 3234–27 | 16 | Screw–Flange |
| 9 | 99–1440 | 2 | Hub ASM |
| 9:2 | 10–6830 | 5 | Stud–Type, Drive |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

* Not illustrated



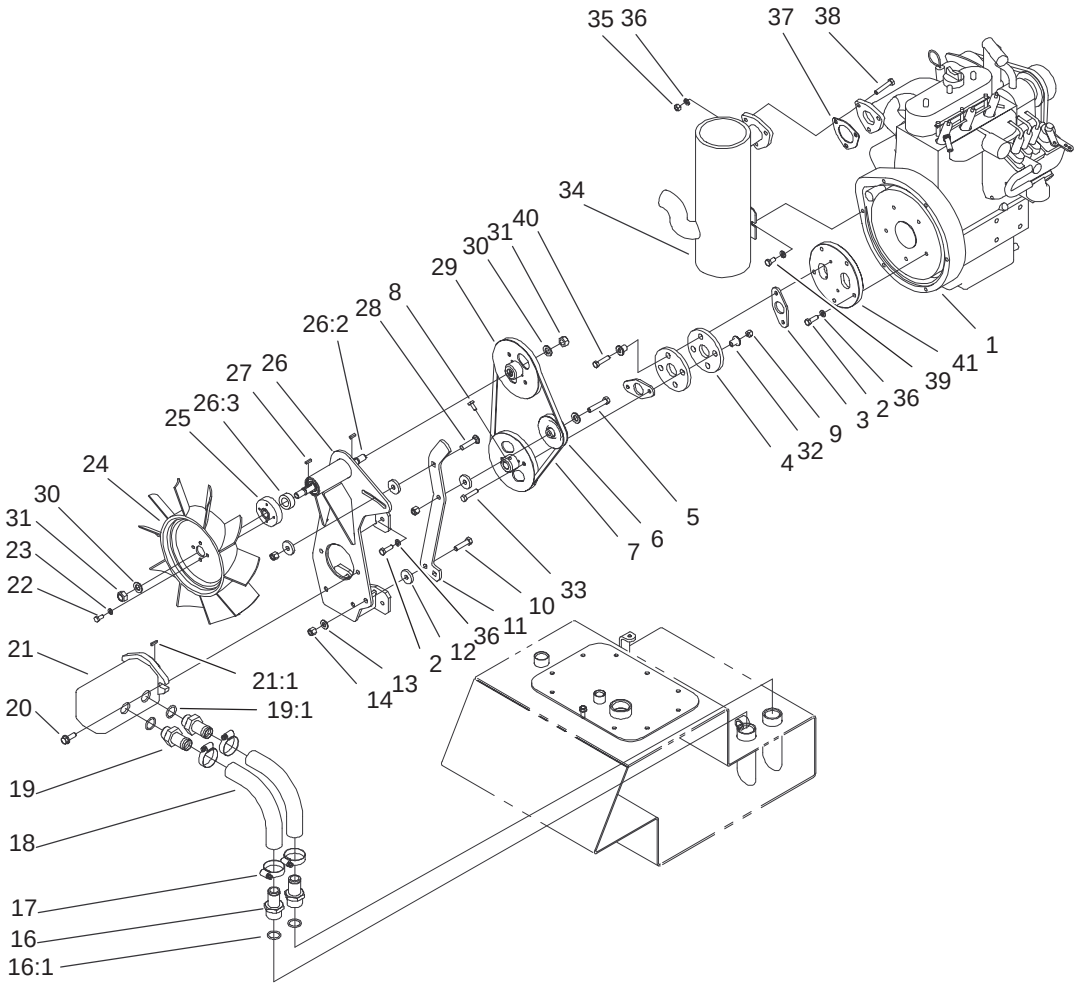

**Parts not listed in part list are not serviced separately**

Sheet No.: A1
C–2980

# Hydraulic Motor Assembly No. 99–3052

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 94–8178 | 1 | Kit–Seal |
| 2 | 99–3090 | 1 | Coupling–Shaft |
| 3 | 99–3091 | 7 | Screw–Cap, HH |
| 4 | 3257–42 | 1 | Key–Woodruff |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|



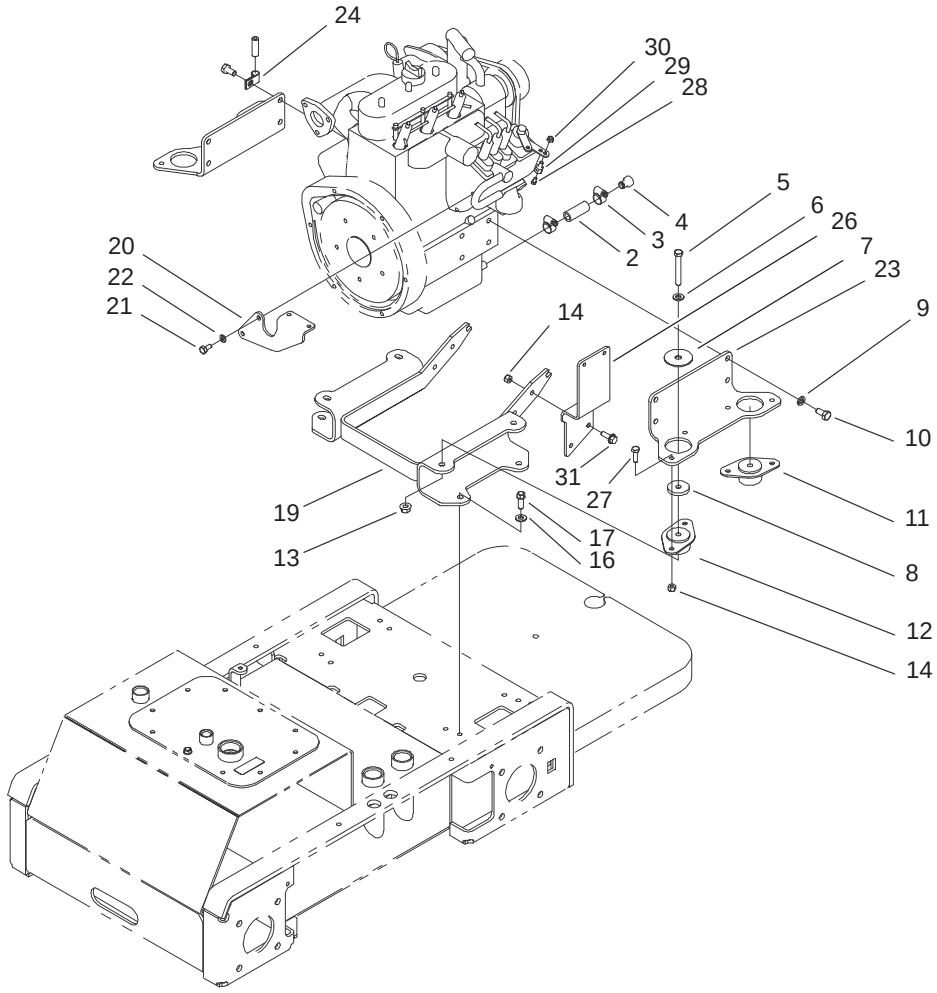

Sheet No.: 5

# Engine Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | | 1 | Engine–D722–E, Kubota |
| 2 | 99–5131 | 9 | Bolt |
| 3 | 99–1430 | 1 | Spacer–Coupler |
| 4 | 44–2230 | 2 | Coupling–Rubber |
| 5 | 323–10 | 1 | Screw–HH |
| 6 | 63–8140 | 1 | Pulley–Idler |
| 7 | 92–8876 | 1 | V–Belt |
| 8 | 3241–5 | 2 | Screw–Set |
| 9 | 104–9469 | 2 | Nut–Lock |
| 10 | 323–8 | 1 | Screw–HH |
| 11 | 100–1727–01 | 1 | Mount–Tensioner |
| 12 | 99–5121 | 4 | Spacer |
| 13 | 3256–24 | 2 | Washer–Flat |
| 14 | 3296–39 | 3 | Nut–Lock, NI |
| 16 | 354–78 | 2 | Connector–Hose |
| 16:1 | 237–146 | 1 | O–Ring |
| 17 | 2412–111 | 4 | Clamp |
| 18 | 99–3046 | 2 | Hose–Suction, Formed |
| 19 | 99–3017 | 2 | Fitting |
| 19:1 | 237–81 | 1 | O–Ring |
| 20 | 66–9300 | 2 | Screw–HF |
| 21 | 98–4702 | 1 | Pump – Gear, Tandem |
| 21:1 | 98–4700 | 1 | Key–Square |
| *21:2 | 99–1353 | 1 | Kit–Seal, Pump |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 22 | 321–3 | 4 | Screw–HH |
| 23 | 3253–3 | 4 | Washer–Lock |
| 24 | 99–5119 | 1 | Fan |
| 25 | 99–1439 | 1 | Adapter–Fan |
| 26 | 99–1449 | 1 | Pump Mount ASM |
| 26:2 | 98–0068 | 1 | Shaft–Fan |
| 26:3 | 38–7820 | 2 | Bearing–Ball |
| 27 | 100–1715 | 2 | Key–Square |
| 28 | 3231–5 | 1 | Screw–CARR |
| 29 | 99–5111 | 1 | Pulley–Keyed |
| 30 | 33096–00 | 2 | Washer–Flat |
| 31 | 98–8089 | 2 | Nut–Lock |
| 32 | 71–4411 | 2 | Spacer |
| 33 | 5–1470 | 2 | Capscrew |
| 34 | 104–2548 | 1 | Muffler–Diesel |
| 35 | 3217–6 | 3 | Nut–Hex |
| 36 | 3253–4 | 13 | Washer–Lock |
| 37 | 100–2238 | 1 | Gasket–Muffler |
| 38 | 322–9 | 3 | Screw–HH |
| 39 | 99–5132 | 1 | Bolt |
| 40 | 99–5133 | 2 | Bolt |
| 41 | 99–1431 | 1 | Adapter–Flywheel |

* Not illustrated

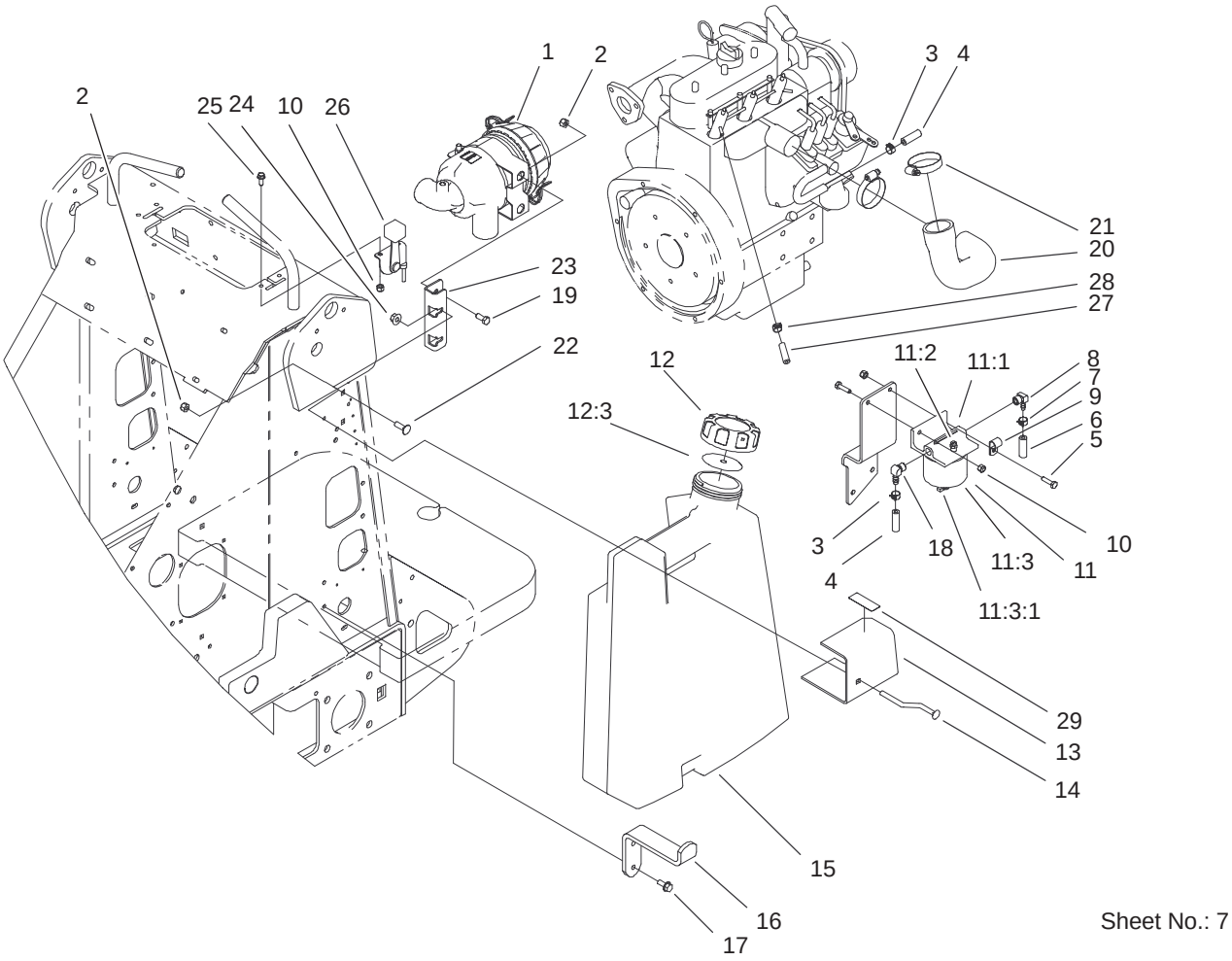



Sheet No.: 6

# Engine Mount Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 2 | 56–2230 | 1 | Hose–Fuel |
| 3 | 2412–36 | 2 | Clamp–Hose |
| 4 | 99–1445 | 1 | Plug–Oil, Diesel |
| 5 | 323–13 | 4 | Screw–HH |
| 6 | 3256–24 | 4 | Washer–Flat |
| 7 | 87–5100 | 4 | Washer–Snubbing |
| 8 | 98–4596 | 4 | Washer–Mount, Engine |
| 9 | 42–9600 | 6 | Lockwasher–Spring |
| 10 | 99–5130 | 7 | Bolt |
| 11 | 83–1030 | 2 | Mount–Engine |
| 12 | 93–5265 | 2 | Mount–Engine |
| 13 | 32128–29 | 4 | Locknut–Flange |
| 14 | 3296–29 | 10 | Nut–Lock |
| 16 | 3256–80 | 4 | Washer–Flat |
| 17 | 95–1726 | 4 | Screw–Taptite W/Patch |
| 19 | 98–0066–01 | 1 | Engine Mount Wa |
| 20 | 99–5007–01 | 1 | Mount–Solenoid |
| 21 | 99–5132 | 2 | Bolt |
| 22 | 3253–4 | 2 | Washer–Lock |
| 23 | 98–0055–01 | 2 | Plate–Mount, Engine |
| 24 | 2412–138 | 1 | R–Clamp |
| 26 | 98–0059–01 | 1 | Mount–Filter,Fuel |
| 27 | 322–5 | 8 | Screw–HH |
| 28 | 25–8640 | 1 | Screw–HH |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 29 | 93–0021 | 1 | Swivel–Cable, Throttle |
| 30 | 3296–13 | 1 | Nut–Lock NI |
| 31 | 3234–29 | 2 | Screw–HHF |



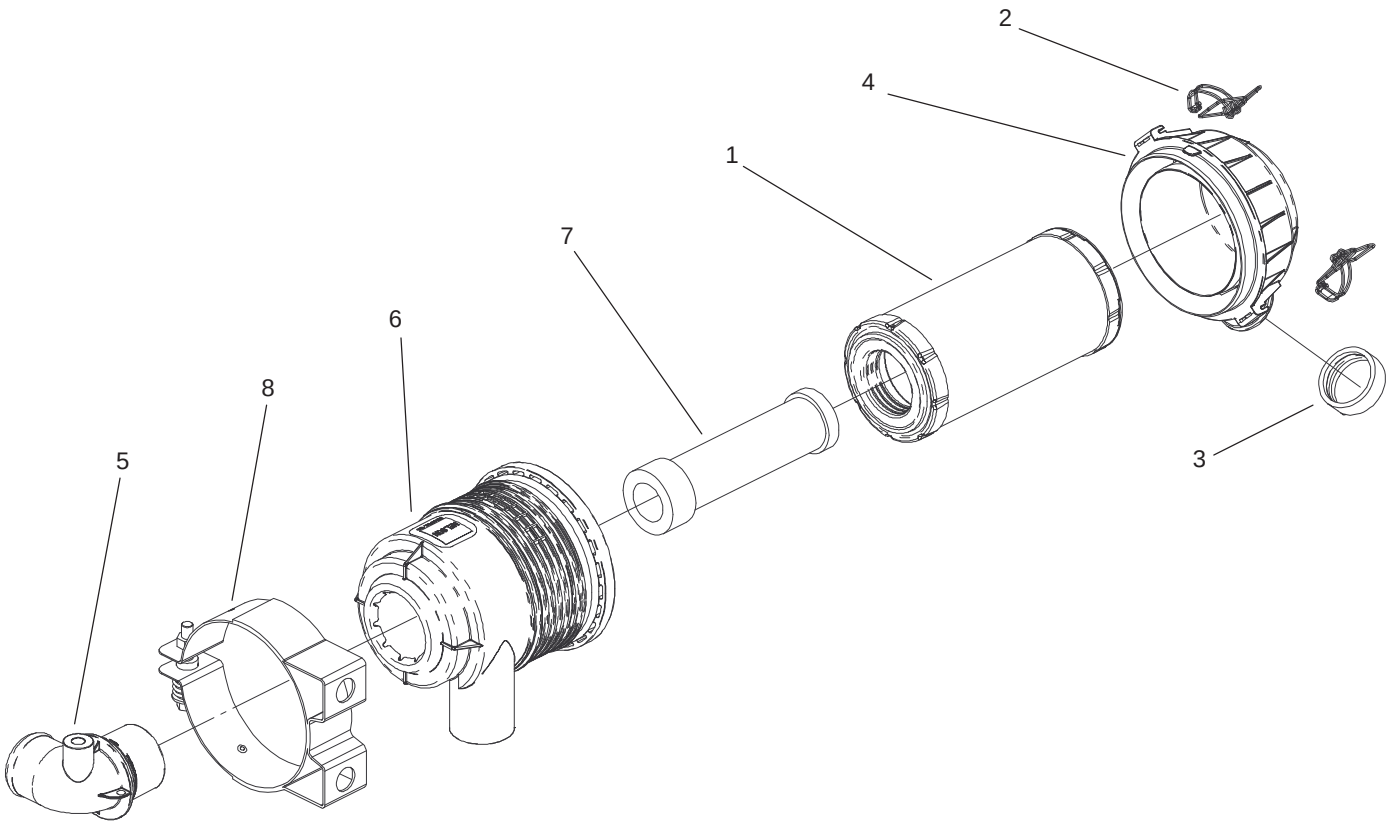

Sheet No.: 7

# Fuel Tank and Air Filter Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 99–3160 | 1 | Air Cleaner ASM |
| 2 | 3296–29 | 3 | Nut–Lock |
| 3 | 92–2379 | 1 | Clamp–Hose |
| 4 | 63–7627 | 1 | Hose–Fuel |
| 5 | 321–6 | 2 | Screw–HH |
| 6 | 99–1438 | 1 | Hose–Fuel |
| 7 | 2412–98 | 2 | Clamp |
| 8 | 304–96 | 1 | Elbow |
| 9 | 2412–73 | 1 | Clamp–R |
| 10 | 3296–42 | 4 | Nut–Lock, NI |
| 11 | 63–7650 | 1 | Separator–Filter/Water |
| 11:1 | 63–8280 | 1 | Head ASM |
| 11:2 | 63–8290 | 1 | Vent–Air |
| 11:3 | 63–8300 | 1 | Element–Spin–On |
| 11:3:1 | 63–8310 | 1 | Valve–Drain |
| 12 | 104–7419 | 1 | Cap–Fuel, Diesel |
| 12:3 | 104–7420 | 1 | Gasket–Vented |
| 13 | 99–1444–03 | 1 | Plate–Mount, Left |
| 14 | 98–4657 | 1 | Bolt–Mount |
| 15 | 105–4050 | 1 | Fuel Tank ASM, Diesel LH |
| *15:1 | 46–6560 | 2 | Bushing |
| *15:2 | 100–1596 | 1 | Fitting–90° |
| *15:3 | 104048 | 1 | Valve–Fuel |
| 16 | 98–4656–03 | 1 | Mount–Bottom, Tank |
| 17 | 32144–70 | 2 | Screw–HH |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 18 | 353–781 | 1 | Fitting |
| 19 | 322–3 | 2 | Screw–HH |
| 20 | 99–5041 | 1 | Hose–Cleaner, Air |
| 21 | 2412–92 | 1 | Clamp–Hose |
| 22 | 3230–2 | 2 | Screw–CARR |
| 23 | 99–3080–03 | 1 | Mount–Cleaner, Air |
| 24 | 32128–20 | 2 | Nut–HF |
| 25 | 3234–33 | 2 | Screw–HHF |
| 26 | 99–1422 | 1 | Control–Throttle |
| 27 | 76–4420 | 1 | Hose–Line, Fuel |
| 28 | 2412–80 | 2 | Fuel Line Clamp |
| 29 | 93–6680 | 1 | Decal–Diesel Only |

* Not illustrated



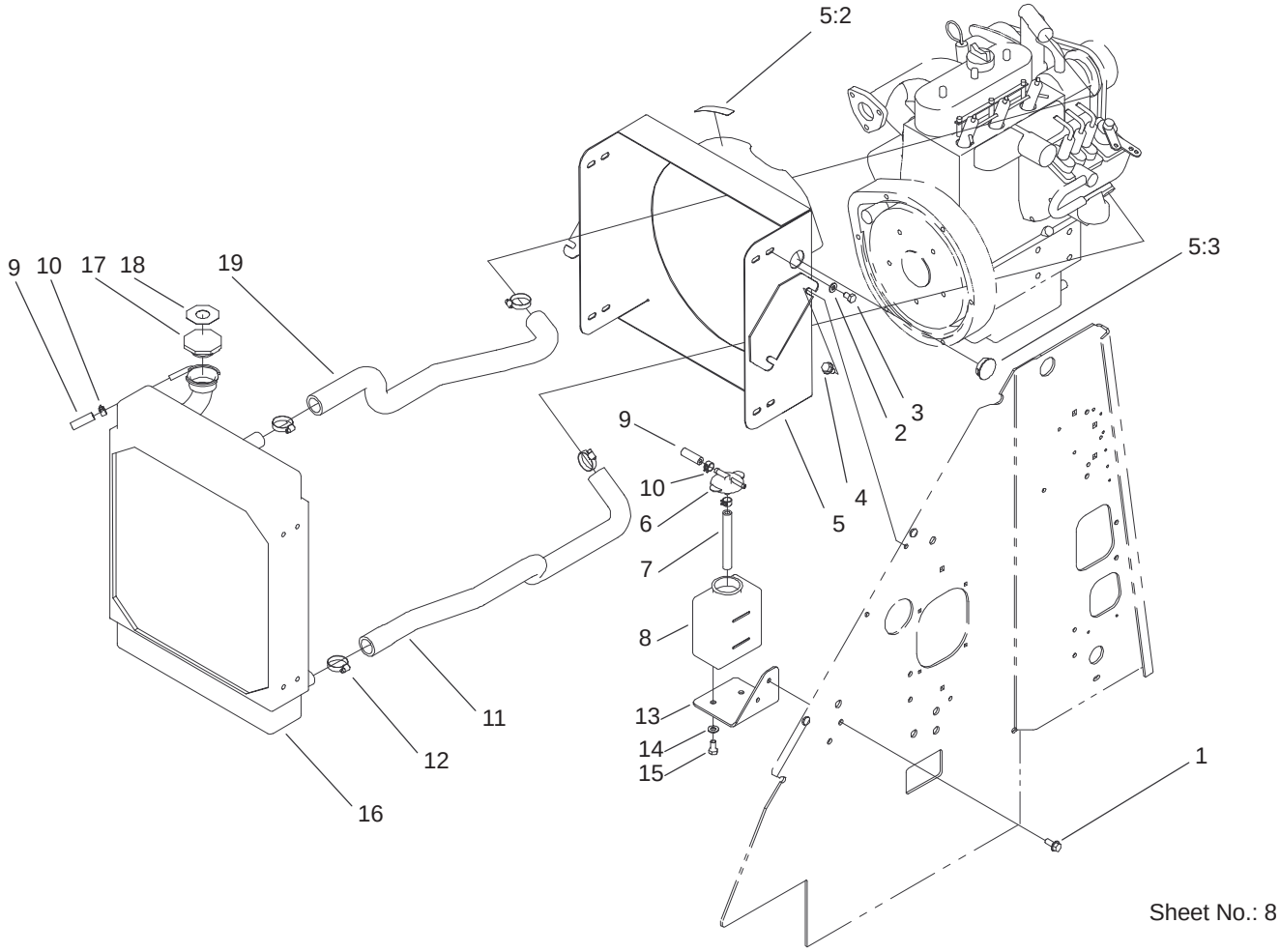

Sheet No.: A3

C–3006

# Air Cleaner Assembly No. 99–3160

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 99–3173 | 1 | Element–Filter, Air |
| 2 | 99–3174 | 2 | Clip–Cleaner, Air |
| 3 | 99–3175 | 1 | Valve–Ejector, Dust |
| 4 | 99–3176 | 1 | Cover–Air Cleaner |
| 5 | 99–3183 | 1 | Tube ASM |
| 6 | 99–3184 | 1 | Housing–Air Cleaner |
| 7 | 99–3198 | 1 | Filter–Safety |
| 8 | 99–3197 | 1 | Filter Mount Bracket ASM |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

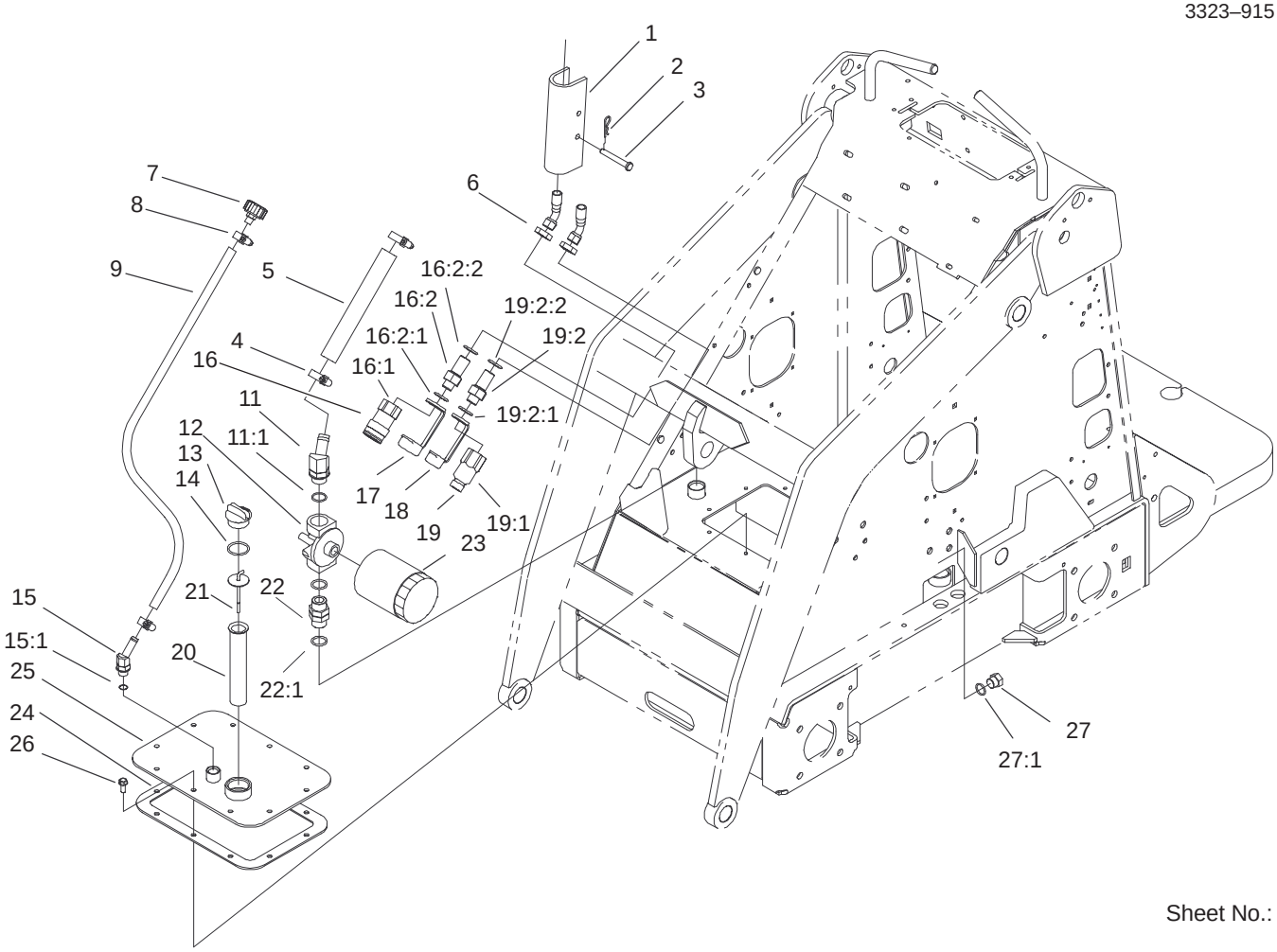



Sheet No.: 8

# Radiator Mount Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 32144–70 | 2 | Screw–HH |
| 2 | 3256–82 | 8 | Washer–Flat |
| 3 | 322–1 | 8 | Screw–HH |
| 4 | 32144–14 | 4 | Screw–HWH |
| 5 | 104–4648 | 1 | Mount–Radiator |
| 5:2 | 93–6681 | 1 | Decal–Warning, Fan |
| 5:3 | 94–1402 | 1 | Plug–Hole |
| 6 | 93–2048 | 1 | Cap–Tank, Overflow |
| 7 | 94–1348 | 1 | Hose–Tank |
| 8 | 93–2049 | 1 | Tank–Overflow |
| 9 | 71–3383 | 1 | Hose–Fuel |
| 10 | 92–2379 | 3 | Clamp–Hose |
| 11 | 99–5042 | 1 | Hose–Radiator, Lower |
| 12 | 2412–34 | 4 | Clamp–Hose |
| 13 | 99–1446–01 | 1 | Mount–Tank, Overflow |
| 14 | 3256–23 | 2 | Washer–Flat |
| 15 | 99–5132 | 2 | Bolt |
| 16 | 99–5125 | 1 | Radiator ASM |
| 17 | 66–3240 | 1 | Cap–Radiator |
| 18 | 93–7840 | 1 | Decal–Cap, Radiator |
| 19 | 99–5043 | 1 | Hose–Radiator,Upper |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

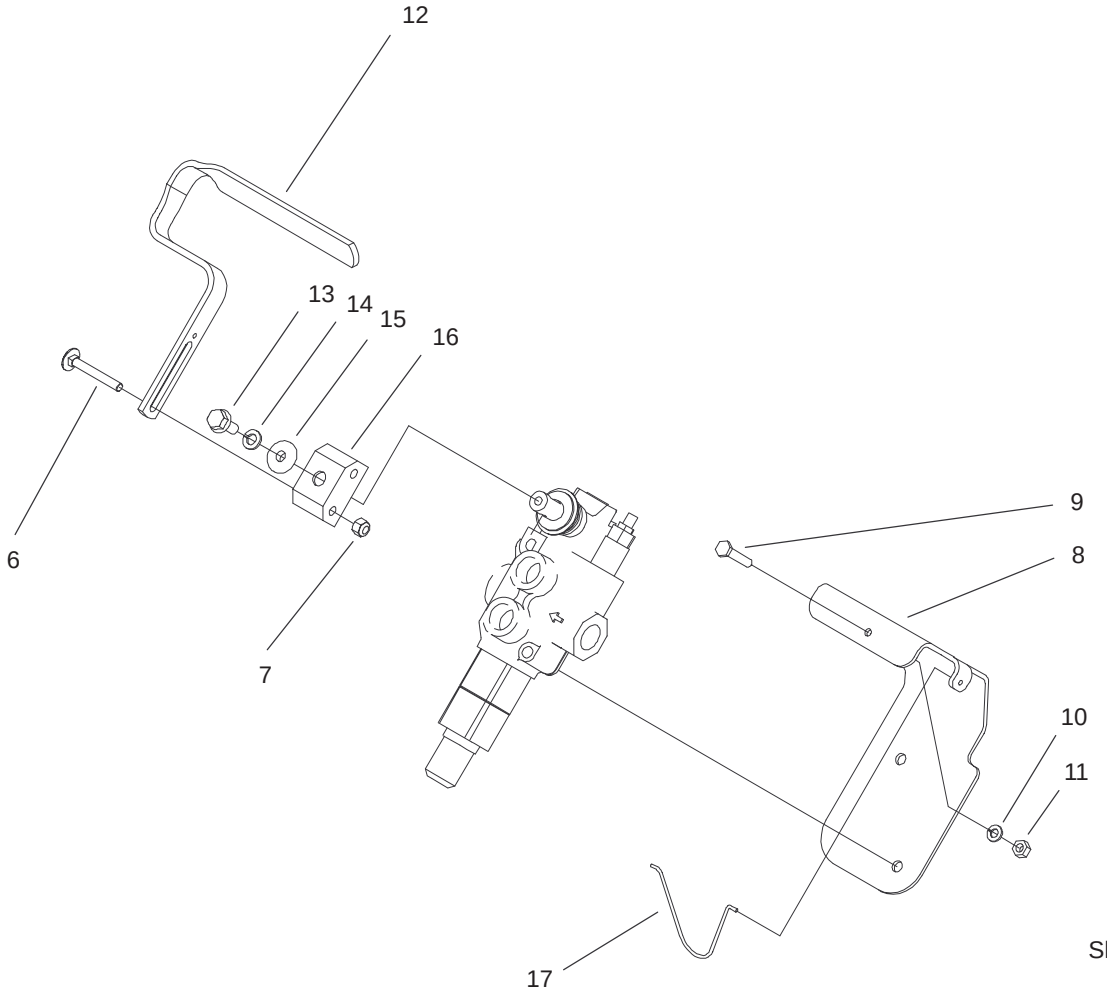



Sheet No.: 9

# Hydraulic Tank and Filter Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 98–4675–01 | 2 | Lock–Cylinder |
| 2 | 3290–467 | 2 | Pin–Hair |
| 3 | 283–52 | 2 | Pin–Clevis |
| 4 | 2412–129 | 2 | Clamp–Hose |
| 5 | 98–2713 | 1 | Hose–Suction, Hydraulic |
| 6 | 340–74 | 2 | Locknut–Bulkhead |
| 7 | 68–6150 | 1 | Breather–Air |
| 8 | 2412–36 | 2 | Clamp–Hose |
| 9 | 100–1748 | 1 | Hose–Vent |
| 11 | 354–127 | 1 | Elbow–45° |
| 11:1 | 237–81 | 1 | O–Ring |
| 12 | 92–5821 | 1 | Filter Head ASM |
| 13 | 93–7498 | 1 | Plug–Plastic |
| 14 | 237–123 | 1 | O–Ring |
| 15 | 354–126 | 1 | Fitting–HYD, 45 |
| 15:1 | 237–79 | 1 | O–Ring |
| 16 | | 1 | Bulkhead Coupler ASM |
| 16:1 | 96–1275 | 1 | Coupler–Face, Flush |
| 16:2 | 100–4236 | 1 | Fitting–Adapter, Bulkhead |
| 16:2:1 | 237–65 | 1 | O–Ring |
| 16:2:2 | 237–80 | 1 | O–Ring |
| 17 | 100–8815 | 1 | Cap–Dust, Nipple |
| 18 | 100–8816 | 1 | Cap–Dust, Coupler |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 19 | 100–4748 | 1 | Bulkhead Nipple ASM |
| 19:1 | 96–1276 | 1 | Nipple–Face, Flush |
| 19:2 | 100–4236 | 1 | Fitting–Adapter, Bulkhead |
| 19:2:1 | 237–65 | 1 | O–Ring |
| 19:2:2 | 237–80 | 1 | O–Ring |
| 20 | 61–2790 | 1 | Filter–Screen |
| 21 | 100–2097 | 1 | Dipstick–Oil |
| 22 | 98–9906 | 1 | Fitting–Thread, Straight |
| 22:1 | 237–81 | 2 | O–Ring |
| 23 | 54–0110 | 1 | Filter–Oil, Transmission |
| 24 | 98–9927 | 1 | Gasket–Cover |
| 25 | 100–1713–01 | 1 | Cover ASM |
| 26 | 98–9940 | 10 | Screw |
| 27 | 353–988 | 1 | Plug–Hex, Hollow |
| 27:1 | 237–79 | 1 | O–Ring |

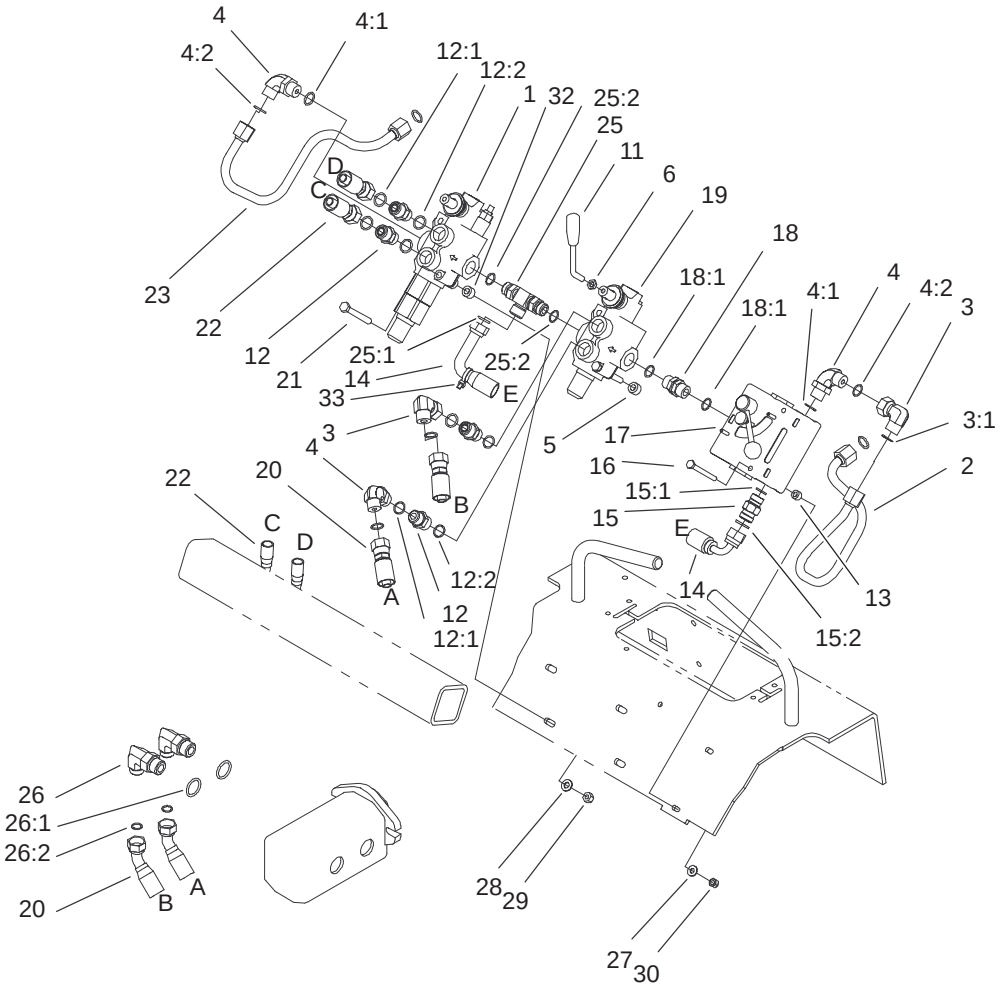



Sheet No.: 10

# Auxiliary Control Lever Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 6 | 3230–33 | 2 | Screw–CARR |
| 7 | 3296–42 | 2 | Nut–Lock, NI |
| 8 | 98–0067–03 | 1 | Bracket–Aux |
| 9 | 32104–96 | 1 | Screw–HH |
| 10 | 3253–3 | 1 | Washer–Lock |
| 11 | 3217–5 | 1 | Nut–Hex |
| 12 | 100–2086 | 1 | Grip–Control |
| 13 | 33104–020 | 1 | Screw–HHF |
| 14 | 3253–4 | 1 | Washer–Lock |
| 15 | 100–2088 | 1 | Cap–Mount, Aux |
| 16 | 100–2087 | 1 | Mount–Lever, Aux. |
| 17 | 100–2089 | 1 | Spring–Torsion |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

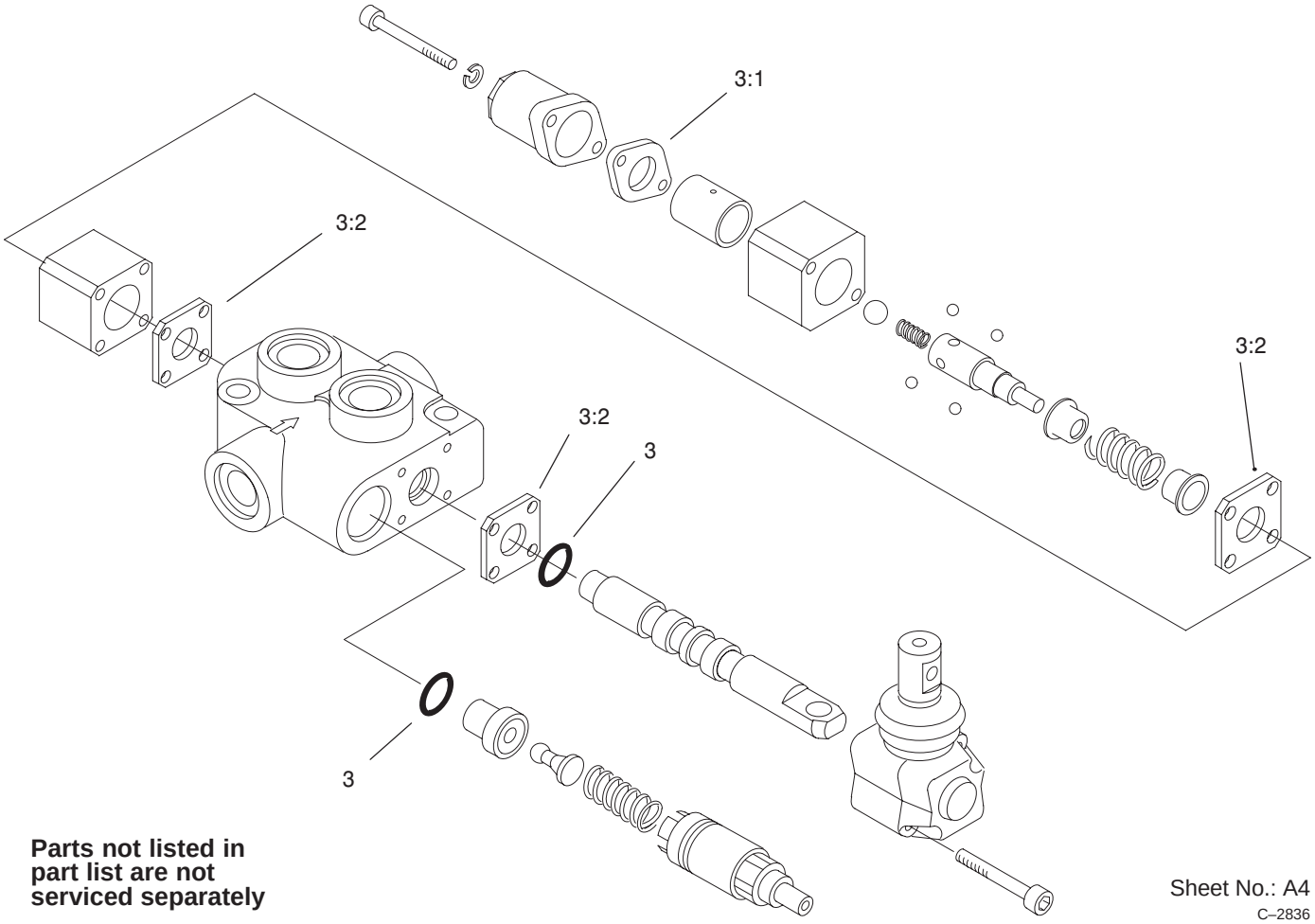



Sheet No.: 11

# Hydraulic Valve Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 99–3077 | 1 | Valve–Aux, Hydraulic |
| 2 | 99–3030 | 1 | Line–Hydraulic, Cf |
| 3 | 94–6031 | 2 | Fitting–HYD |
| 3:1 | 237–30 | 1 | O–Ring |
| 4 | 340–98 | 3 | Fitting–HYD, 90° |
| 4:1 | 237–79 | 1 | O–Ring |
| 4:2 | 237–30 | 1 | O–Ring |
| 5 | 98–4695 | 2 | Tube–Spacer |
| 6 | 42–9580 | 1 | Nut–Hex |
| 11 | 98–4729 | 1 | Lever–Valve |
| 12 | | 3 | Adapter |
| 12:1 | 237–30 | 2 | O–Ring |
| 12:2 | 237–79 | 2 | O–Ring |
| 13 | 98–4799 | 2 | Tube–Spacer |
| 14 | 100–2245 | 1 | Hose ASM |
| 15 | 98–4735 | 1 | Valve–Check, HYD |
| 15:1 | 237–30 | 1 | O–Ring |
| 15:2 | 237–79 | 1 | O–Ring |
| 16 | 321–14 | 2 | Screw–HH |
| 17 | 104–4221 | 1 | Kit–Valve, Hydraulic |
| 18 | 95–3209 | 1 | Fitting–Thread, Straight |
| 18:1 | 237–79 | 2 | O–Ring |
| 19 | 99–3072 | 1 | Valve–Selector, Hydraulic |
| 20 | 100–1730 | 2 | Hose–Pump, HYD |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 21 | 322–13 | 4 | Screw–HH |
| 22 | 100–8817 | 2 | Hose–Aux |
| 23 | 98–4724 | 1 | Line–Aux, Hydraulic |
| 25 | 98–9079 | 1 | Adapter – Tee, Adjustable |
| 25:1 | 237–30 | 1 | O–Ring |
| 25:2 | 237–79 | 2 | O–Ring |
| 26 | 340–105 | 2 | Fitting–90° |
| 26:1 | 237–80 | 1 | O–Ring |
| 26:2 | 237–30 | 1 | O–Ring |
| 27 | 3256–22 | 2 | Washer–Flat |
| 28 | 3256–23 | 4 | Washer–Flat |
| 29 | 3296–29 | 4 | Nut–Lock |
| 30 | 3296–42 | 2 | Nut–Lock, NI |
| 32 | 100–2085 | 2 | Tube–Spacer |
| 33 | 3290–379 | 10 | Tie–Cable |



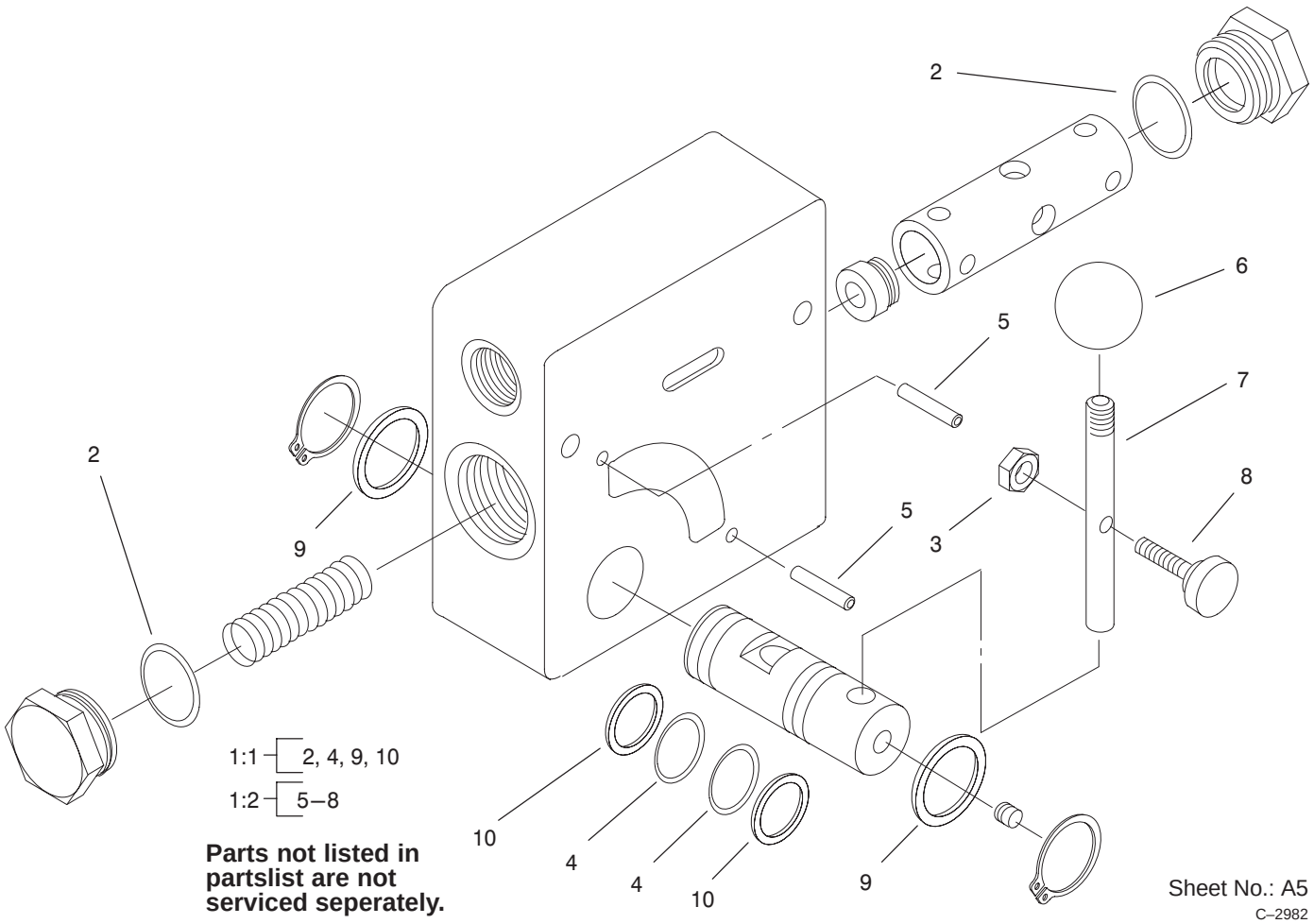

**Parts not listed in part list are not serviced separately**

Sheet No.: A4
C–2836

# Hydraulic Valve Assembly No. 99–3077

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 3 | 99–4391 | 1 | Kit–Seal |
| 3:1 | 99–3074 | 1 | Gasket |
| 3:2 | 99–3075 | 3 | Gasket |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|




**Parts not listed in partslist are not serviced seperately.**

Sheet No.: A5
C–2982

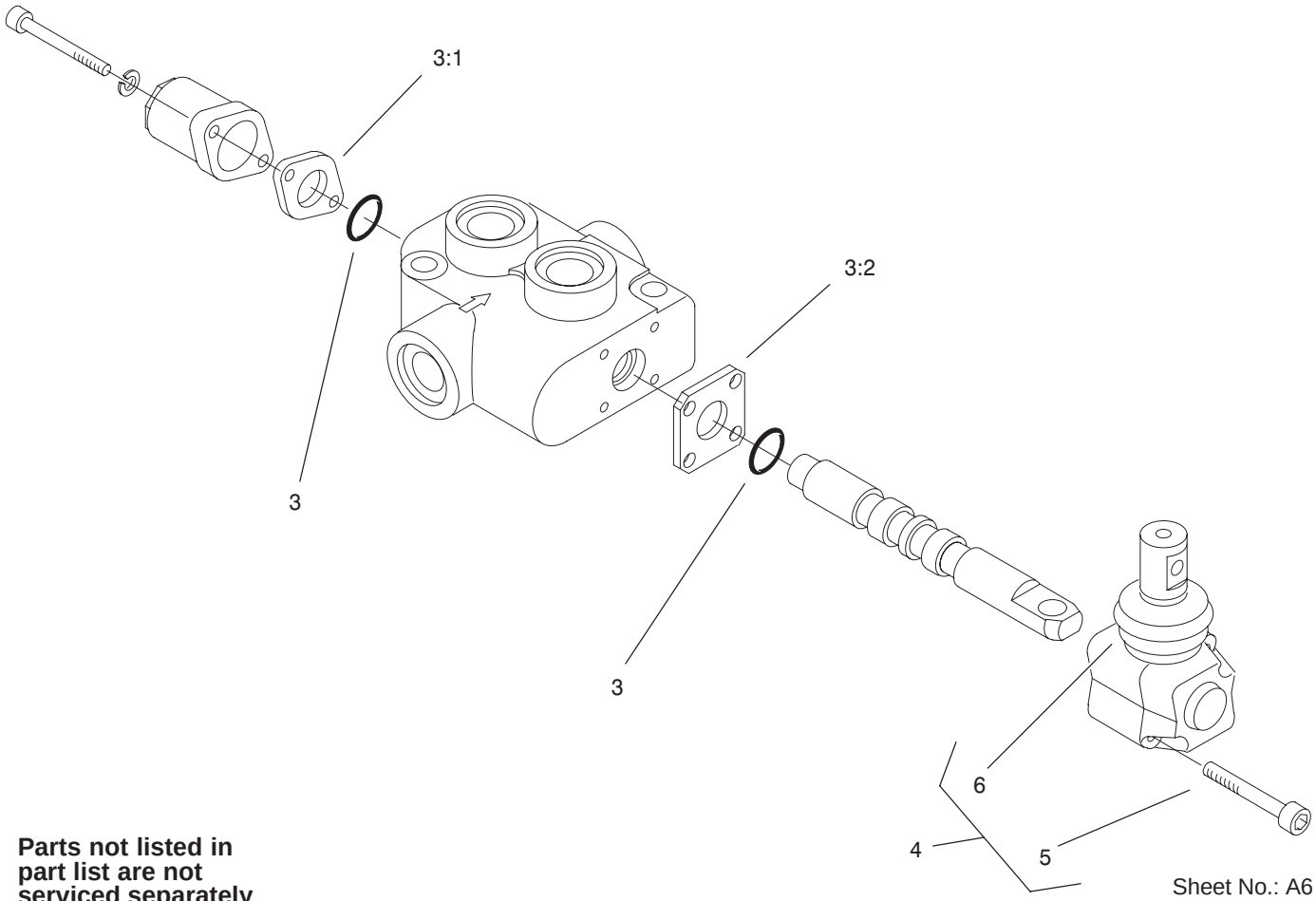
# Hydraulic Valve Assembly No. 104–4221

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| ☆1 | | 1 | Valve–Flow, Hydraulic |
| 1:1 | 104–4231 | 1 | Kit–Seal, Valve |
| 1:2 | 98–9098 | 1 | Kit–Hardware, Handle |
| 3 | 3296–27 | 1 | Nut–Lock NI |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

☆ Not serviced

3323–915




**Parts not listed in part list are not serviced separately**

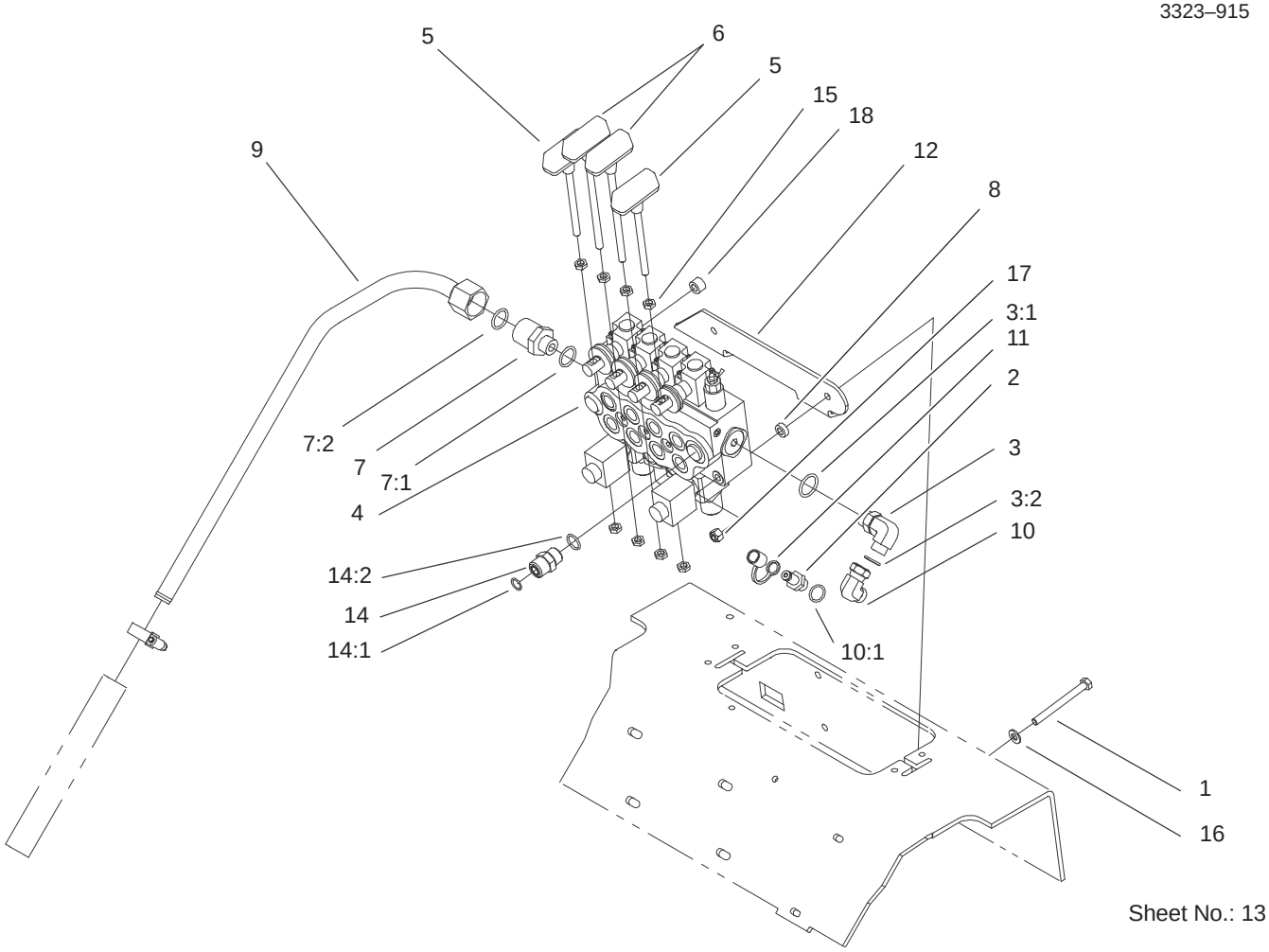
Sheet No.: A6

C–2983

# Hydraulic Valve Assembly No. 99–3072

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 3 | 99–4391 | 1 | Kit–Seal |
| 3:1 | 99–3074 | 1 | Gasket |
| 3:2 | 99–3075 | 3 | Gasket |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|



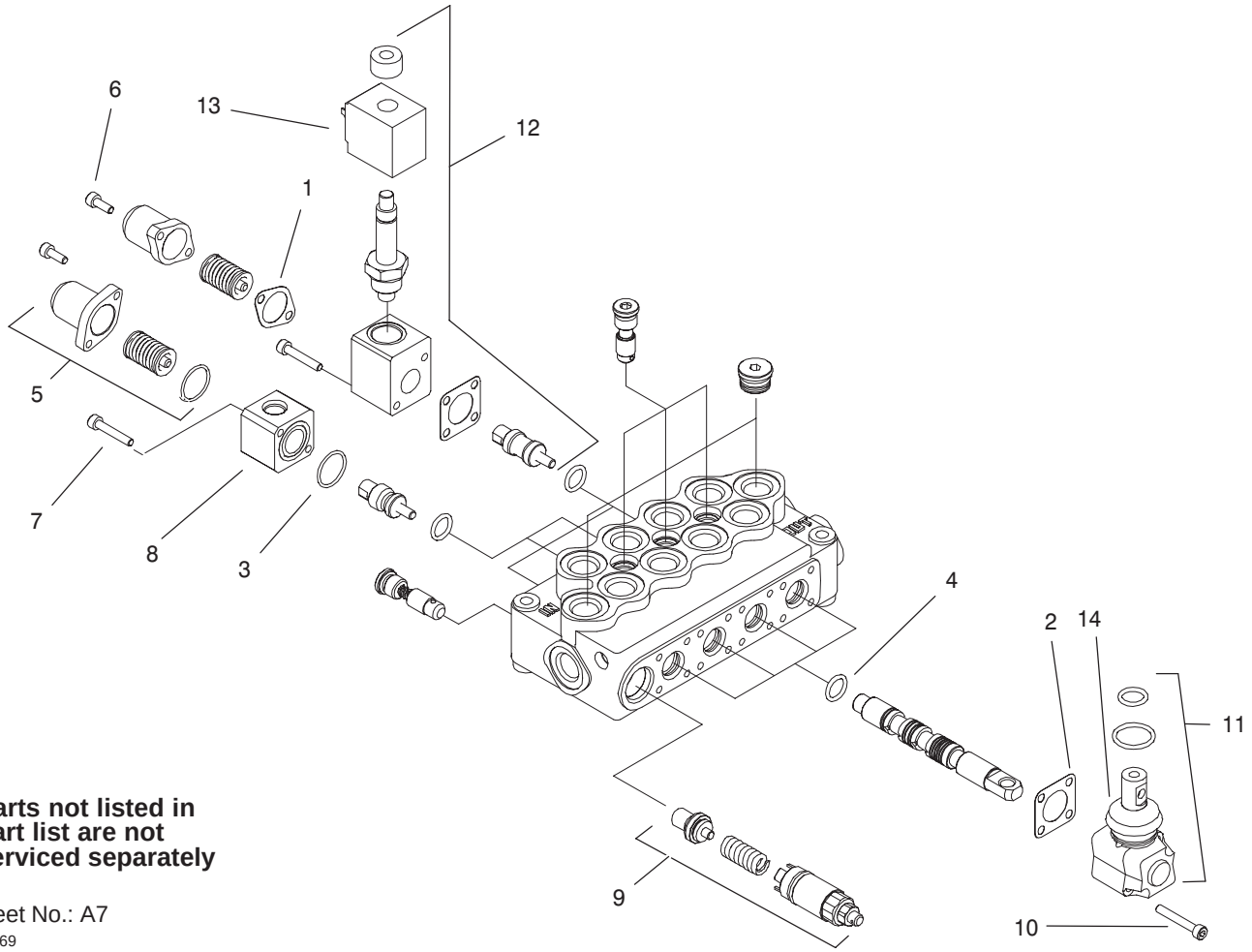

Sheet No.: 13

# 4–Spool Valve Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 322–20 | 3 | Screw–HH |
| 2 | 86–5480 | 1 | Nipple–Test |
| 3 | 340–18 | 1 | Fitting–HYD, 90° |
| 3:1 | 237–79 | 1 | O–Ring |
| 3:2 | 237–22 | 1 | O–Ring |
| 4 | 99–3069 | 1 | Valve–Hydraulic, 4–Spool |
| 5 | 98–4671 | 2 | Cylinder Handle ASM |
| 6 | 98–4670 | 2 | Drive Handle ASM |
| 7 | 98–9921 | 1 | Fitting–Thread, Straight |
| 7:1 | 237–145 | 1 | O–Ring |
| 7:2 | 237–79 | 1 | O–Ring |
| 8 | 99–3078 | 2 | Spacer |
| 9 | 99–3021 | 1 | Line–Tank, Hydraulic |
| 10 | 340–159 | 1 | Fitting–HYD, 90° |
| 10:1 | 237–22 | 2 | O–Ring |
| 11 | 354–79 | 1 | Cap–Fitting, Yellow |
| 12 | 104–4222–03 | 1 | Bracket–Cover, Mount |
| 14 | 340–4 | 2 | Adapter |
| 14:1 | 237–30 | 1 | O–Ring |
| 14:2 | 237–79 | 1 | O–Ring |
| 15 | 42–9580 | 8 | Nut–Hex |
| 16 | 3256–23 | 3 | Washer–Flat |
| 17 | 3296–29 | 3 | Nut–Lock |
| 18 | 98–4695 | 1 | Tube–Spacer |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

3323–915




**Parts not listed in part list are not serviced separately**

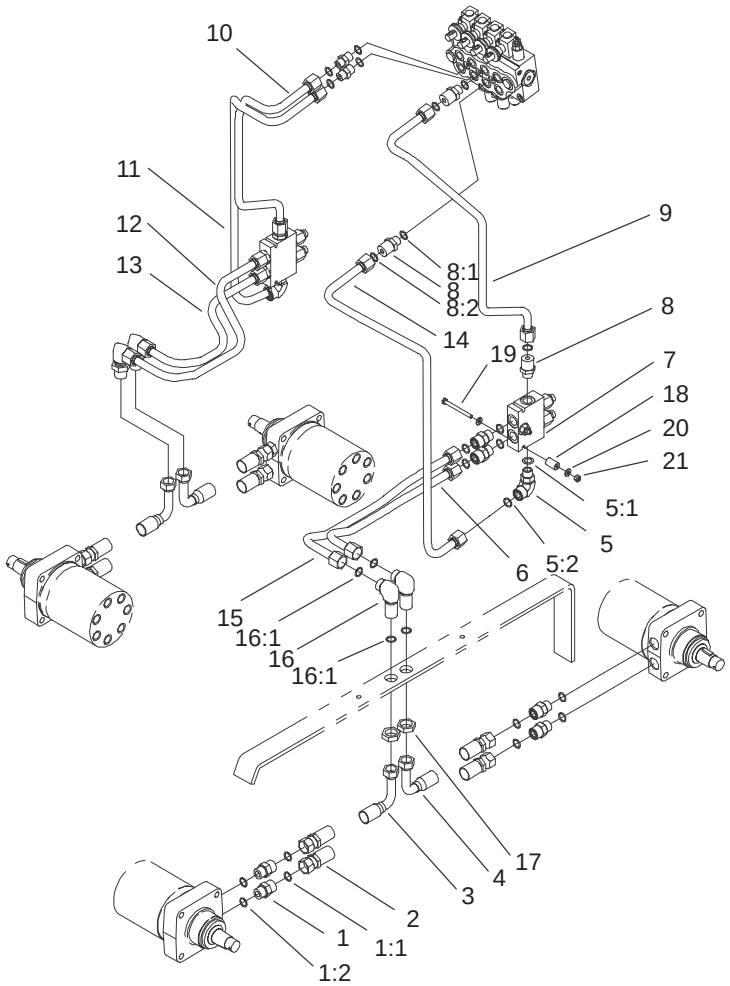
Sheet No.: A7

C–2869

# Hydraulic Valve Assembly No. 99–3069

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 3 | 99–4390 | 1 | Kit–Seal, Sd5 |
| 3:1 | 99–3074 | 4 | Gasket |
| 3:2 | 99–3075 | 8 | Gasket |
| 5 | 100–8800 | 4 | Standard Spring ASM |
| 5 | 100–8801 | 4 | Kit–Spring, High Force |
| 6 | 100–8802 | 8 | Screw–Cap, End |
| 7 | 100–8803 | 8 | Screw–Body |
| 8 | 100–8804 | 2 | Block–Mount, Switch |
| 9 | 100–8805 | 1 | Valve–Relief |
| 10 | 100–8806 | 8 | Screw–Operator |
| 11 | 100–8807 | 4 | Operator ASM |
| 12 | 100–8808 | 2 | Spool Lock ASM |
| 13 | 100–8809 | 2 | Coil With Connector |
| 14 | 100–8829 | 4 | Boot–Operator |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

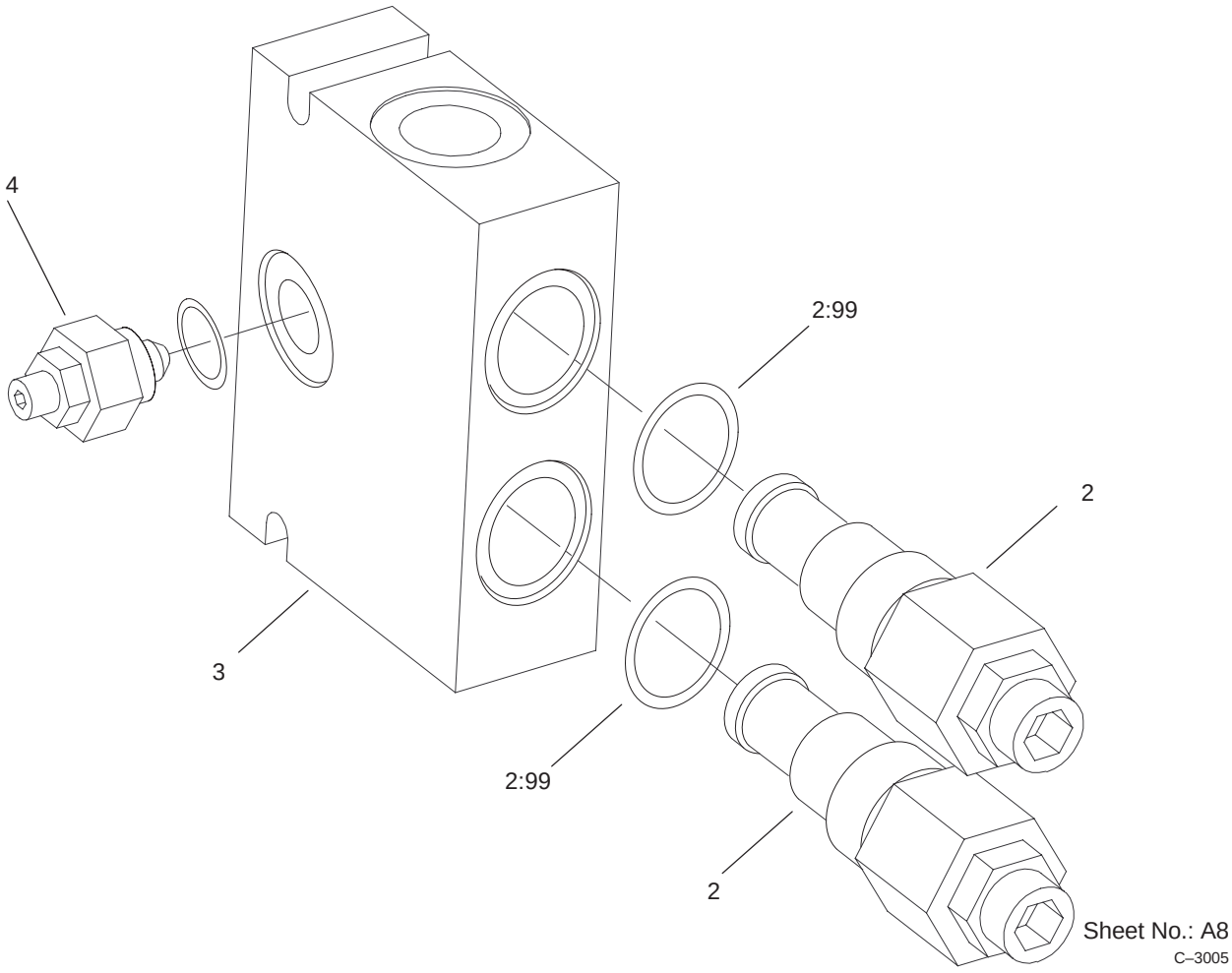



Sheet No.: 14

# Hydraulic Motor Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 340–7 | 8 | Adapter |
| 1:1 | 237–65 | 1 | O–Ring |
| 1:2 | 237–80 | 1 | O–Ring |
| 2 | 99–3012 | 2 | Hose–Motor, HYD |
| 3 | 99–3010 | 2 | Hose–Motor, Front HYD |
| 4 | 99–3011 | 2 | Hose–Motor, Rear HYD |
| 5 | 340–153 | 2 | Fitting–HYD |
| 5:1 | 237–79 | 1 | O–Ring |
| 5:2 | 237–151 | 1 | O–Ring |
| 6 | 99–3022 | 1 | Line–Hydraulic |
| 7 | 99–3040 | 2 | Valve–Counterbalance |
| 8 | 340–155 | 10 | Fitting–HYD |
| 8:1 | 237–79 | 1 | O–Ring |
| 8:2 | 237–151 | 1 | O–Ring |
| 9 | 99–3027 | 1 | Line–Hydraulic |
| 10 | 99–3024 | 1 | Line–Hydraulic |
| 11 | 99–3029 | 1 | Line–Hydraulic |
| 12 | 99–3025 | 1 | Line–Hydraulic |
| 13 | 99–3028 | 1 | Line–Hydraulic |
| 14 | 99–3023 | 1 | Line–Hydraulic |
| 15 | 99–3026 | 1 | Line–Hydraulic |
| 16 | 340–72 | 4 | Elbow–Bulkhead Union, 90° |
| 16:1 | 237–65 | 2 | O–Ring |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 17 | 340–74 | 4 | Locknut–Bulkhead |
| 18 | 99–3057 | 2 | Spacer–Valve |
| 19 | 321–23 | 2 | Screw–HH |
| 20 | 3256–22 | 4 | Washer–Flat |
| 21 | 3296–42 | 2 | Nut–Lock, NI |

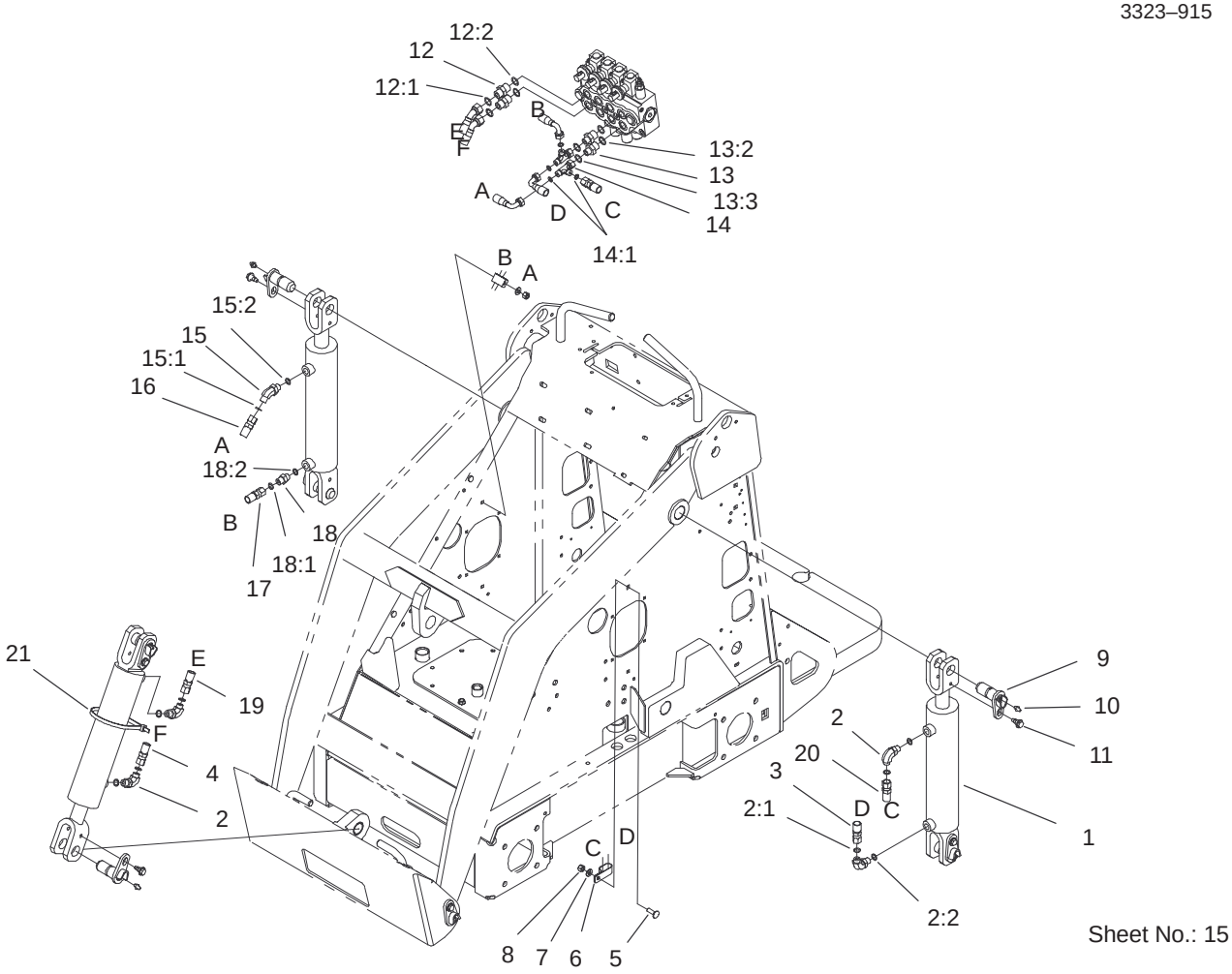



Sheet No.: A8
C–3005

# Counterbalance Valve Assembly No. 99–3040

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 2 | 99–3271 | 2 | Valve – Cartridge |
| 2:99 | 98–2712 | 1 | Kit–Seal, Valve |
| 3 | 100–8864 | 1 | Manifold ASM |
| 4 | 100–8865 | 1 | Needle Valve ASM |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

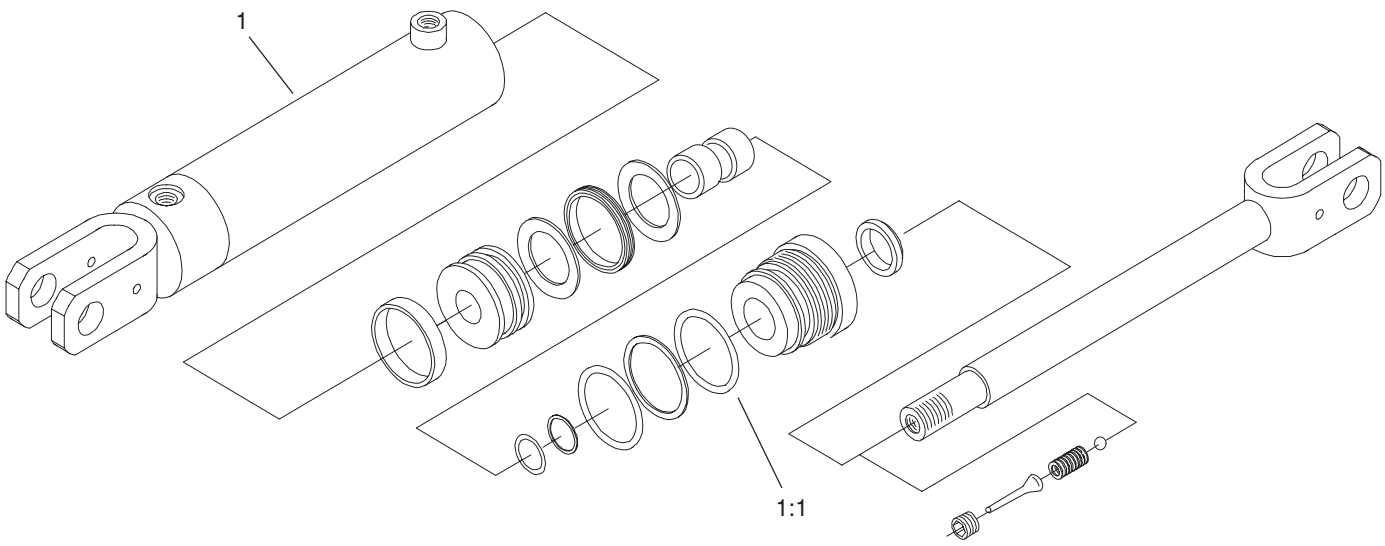



Sheet No.: 15

# Hydraulic Cylinder Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–4163 | 3 | Kit–Cylinder, Hydraulic |
| 2 | 340–82 | 4 | Adapter |
| 2:1 | 237–42 | 2 | O–Ring |
| 2:2 | 237–21 | 2 | O–Ring |
| 3 | 98–4748 | 1 | Hose–HYD, Lo Pressure |
| 4 | 98–4726 | 1 | Hose–HYD |
| 5 | 3230–2 | 2 | Screw–CARR |
| 6 | 2412–137 | 2 | Clamp–Tube |
| 7 | 3256–23 | 2 | Washer–Flat |
| 8 | 3296–29 | 2 | Nut–Lock |
| 9 | 99–1414 | 2 | Pin–Pivot |
| 10 | 302–5 | 6 | Fitting–Grease |
| 11 | 99–5105 | 2 | Bolt–Shoulder |
| 12 | 340–3 | 2 | Adapter |
| 12:1 | 237–22 | 1 | O–Ring |
| 12:2 | 237–79 | 1 | O–Ring |
| 13 | 340–133 | 2 | Adapter |
| 13:2 | 237–79 | 1 | O–Ring |
| 13:3 | 237–21 | 1 | O–Ring |
| 14 | 340–151 | 2 | Fitting |
| 14:1 | 237–75 | 3 | O–Ring |
| 15 | 340–137 | 1 | Fitting |
| 15:1 | 237–21 | 1 | O–Ring |
| 15:2 | 237–42 | 1 | O–Ring |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 16 | 98–4725 | 1 | Hose–Loader, Hydraulic |
| 17 | 100–1731 | 1 | Hose–HYD, Right |
| 18 | 340–1 | 1 | Adapter |
| 18:1 | 237–35 | 1 | O–Ring |
| 18:2 | 237–42 | 1 | O–Ring |
| 19 | 98–4727 | 1 | Hose–HYD |
| 20 | 99–3109 | 1 | Hose–Loader, HYD |
| 21 | 3334–945 | 1 | Tie–Cable |



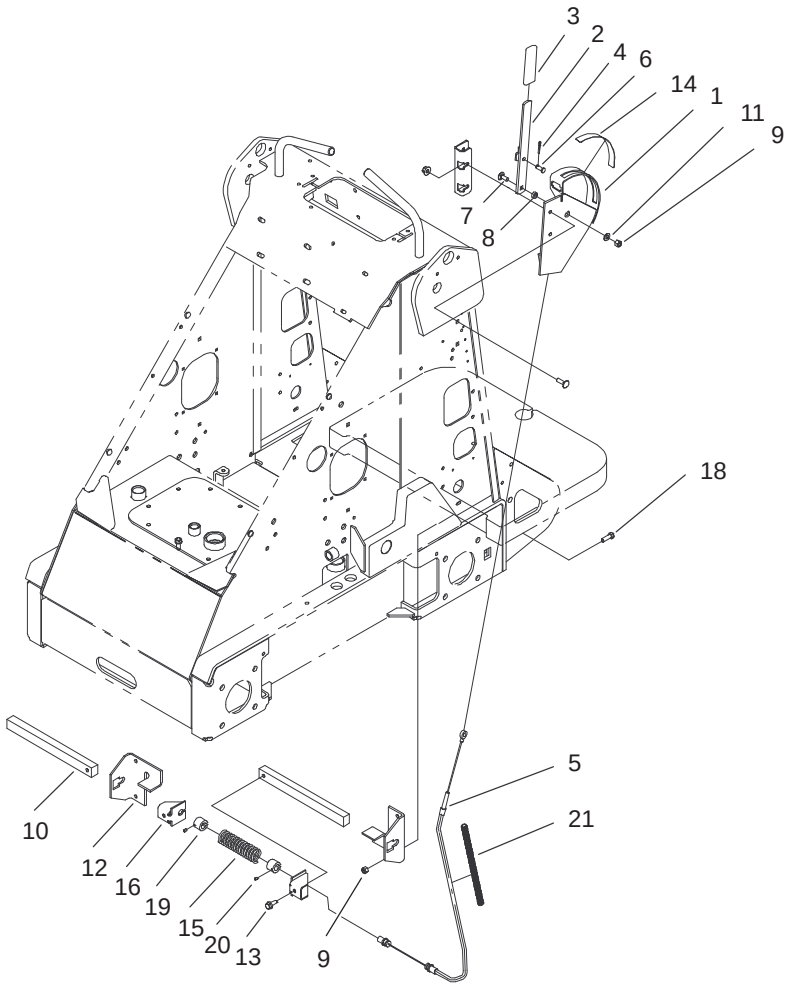

**Parts not listed in part list are not serviced separately**

Sheet No.: A9
C–2824

# Hydraulic Cylinder Assembly No. 100–4163

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | | 1 | Cylinder–Hydraulic |
| 1:1 | 99–3065 | 1 | Kit–Seal, Hydraulic Cylinder |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

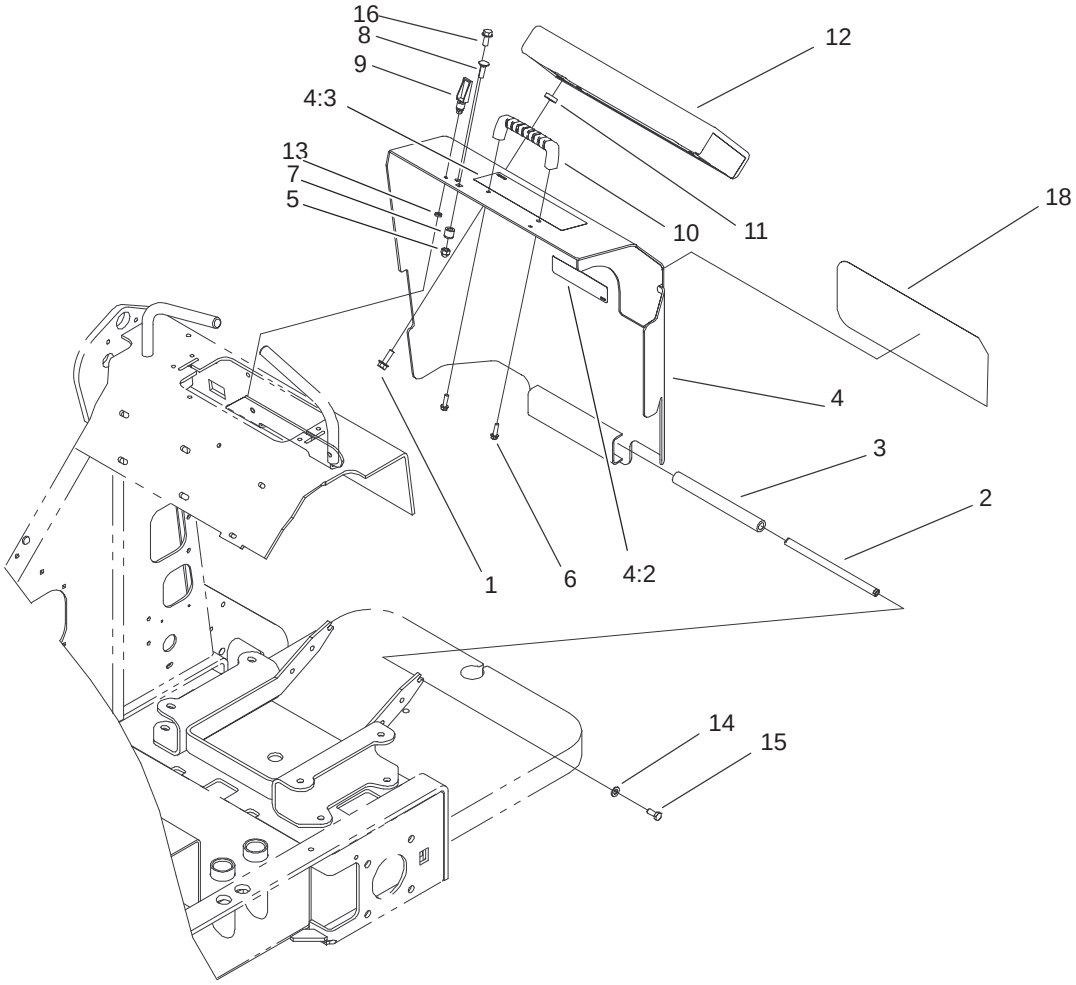



Sheet No.: 16

# Parking Brake Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1688–03 | 1 | Plate |
| 2 | 100–1684–03 | 1 | Lever |
| 3 | 62–9130 | 1 | Grip–Handle |
| 4 | 3272–6 | 1 | Pin–Cotter |
| 5 | 100–1679 | 1 | Cable |
| 6 | 283–62 | 1 | Pin–Clevis |
| 7 | 3230–23 | 1 | Screw–CARR |
| 8 | 100–1683 | 1 | Hub–Lever |
| 9 | 3296–29 | 5 | Nut–Lock |
| 10 | 100–1674–03 | 2 | Bar–Brake |
| 11 | 3256–23 | 1 | Washer–Flat |
| 12 | 100–1676–03 | 2 | Bracket–Brake |
| 13 | 100–1668 | 2 | Screw–Flange |
| 14 | 100–1692 | 1 | Decal–Brake |
| 15 | 100–1678–03 | 1 | Spring |
| 16 | 100–1677–03 | 2 | Bracket–Cable |
| 18 | 322–5 | 4 | Screw–HH |
| 19 | 100–6274 | 2 | Tube–Guide |
| 20 | 3245–20 | 2 | Screw–HSH |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

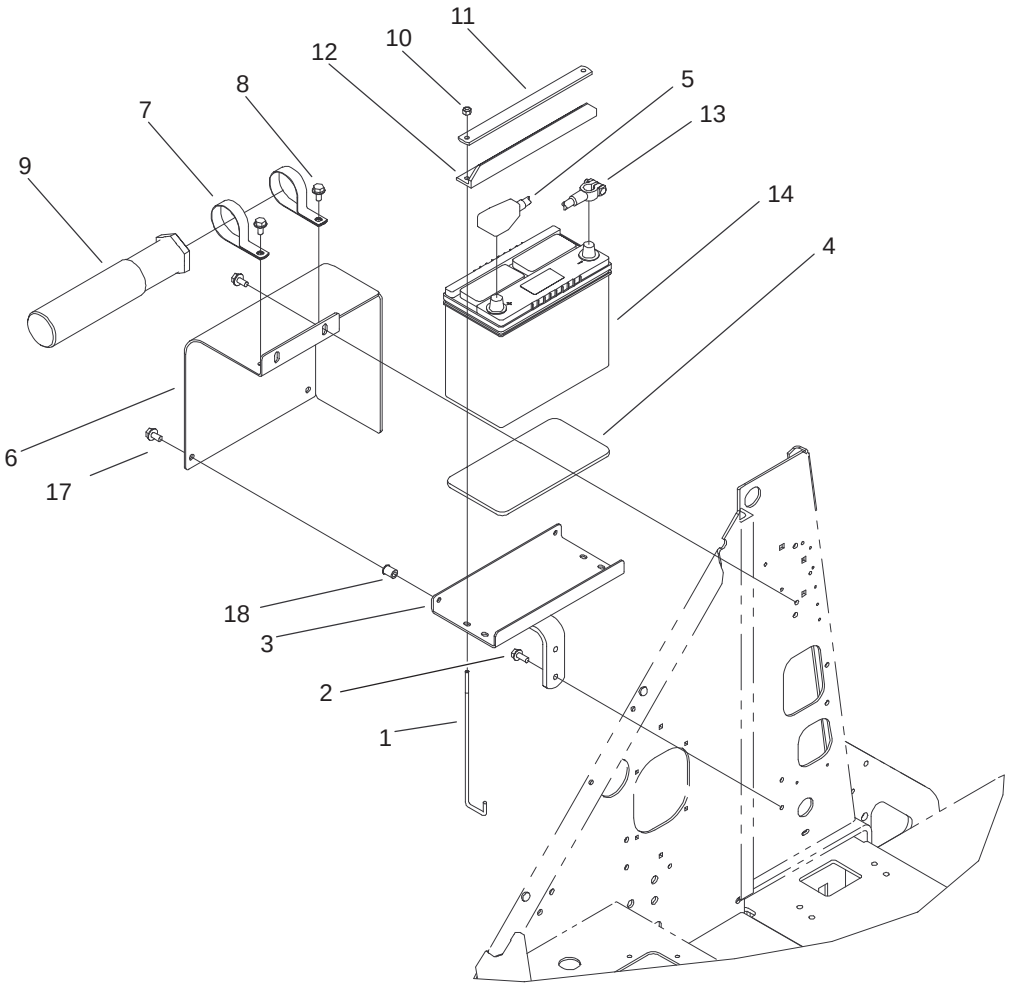



Sheet No.: 17

# Rear Cover Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 3234–29 | 4 | Screw–HHF |
| 2 | 99–3083 | 1 | Bar–Hinge |
| 3 | 99–3085 | 1 | Hose–Hinge |
| 4 | 104–9450 | 1 | Cover ASM, |
| 4:2 | 93–7814 | 1 | Decal–Danger |
| 4:3 | 100–1701 | 1 | Decal–Danger |
| 5 | 32111–8 | 1 | Locknut–Acorn |
| 6 | 46–8091 | 2 | Screw–HWH |
| 7 | 99–3035 | 1 | Spacer–Guide |
| 8 | 3230–22 | 1 | Screw–CARR |
| 9 | 74–5950 | 2 | Latch–Swell |
| 10 | 65–5100 | 1 | Handle–Door |
| 11 | 26–4840 | 4 | Spacer–Pin, Mounting |
| 12 | 99–3101 | 1 | Cover–Pad |
| 13 | 99–3058 | 2 | Washer |
| 14 | 3256–23 | 1 | Washer–Flat |
| 15 | 322–3 | 2 | Screw–HH |
| 16 | 32144–70 | 1 | Screw–HH |
| 18 | 100–8828 | 1 | Decal–Dingo, Front |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

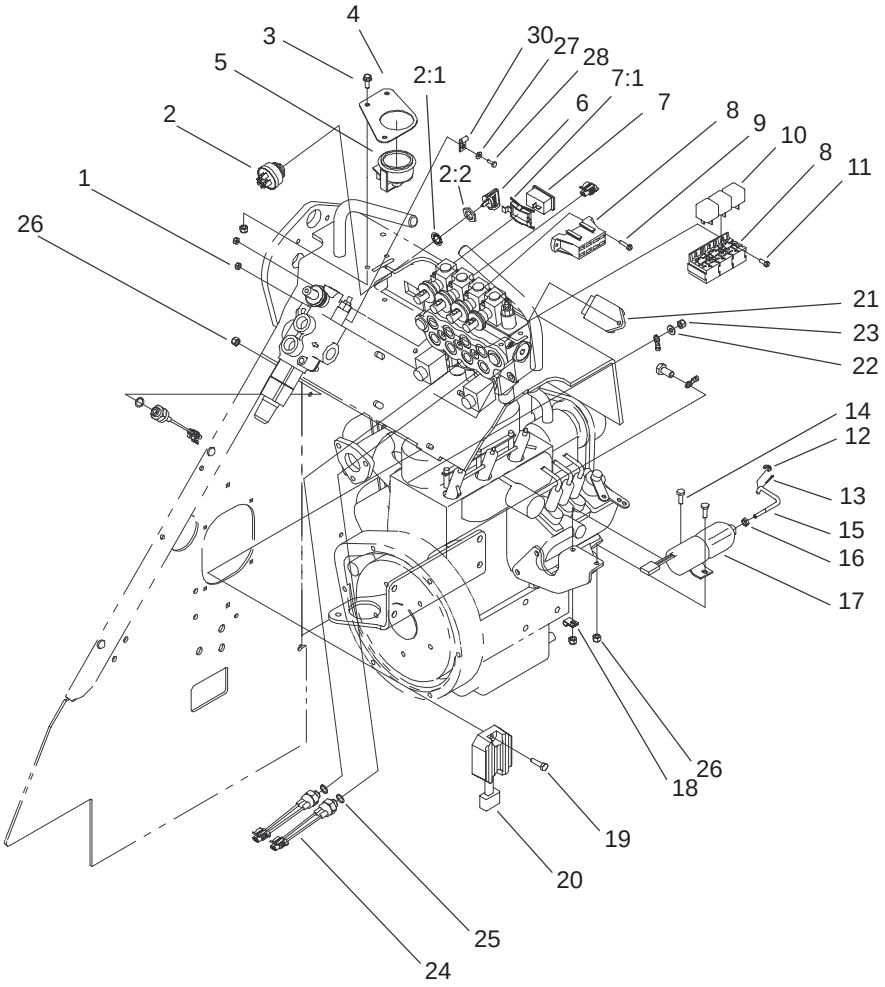



Sheet No.: 19

# Battery Mount Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 99–5035 | 2 | Retainer–Battery |
| 2 | 32144–70 | 2 | Screw–HH |
| 3 | 98–2665–03 | 1 | Battery Mount |
| 4 | 99–5030 | 1 | Pad–Battery |
| 5 | 100–1708 | 1 | Cable–Battery, Positive |
| 6 | 98–2670–03 | 1 | Cover–Battery |
| 7 | 2412–133 | 2 | R–Clamp |
| 8 | 32144–14 | 4 | Screw–HWH |
| 9 | 74–0720 | 1 | Tube–Manual |
| 10 | 3296–42 | 2 | Nut–Lock, NI |
| 11 | 99–5008–01 | 1 | Retainer–Battery |
| 12 | 99–5039 | 1 | Retainer–Battery |
| 13 | 100–1709 | 1 | Cable–Battery, Negative |
| 14 | 99–1441 | 1 | Battery |
| 17 | 3234–29 | 2 | Screw–HHF |
| 18 | 32148–7 | 2 | Nut–Insert |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|



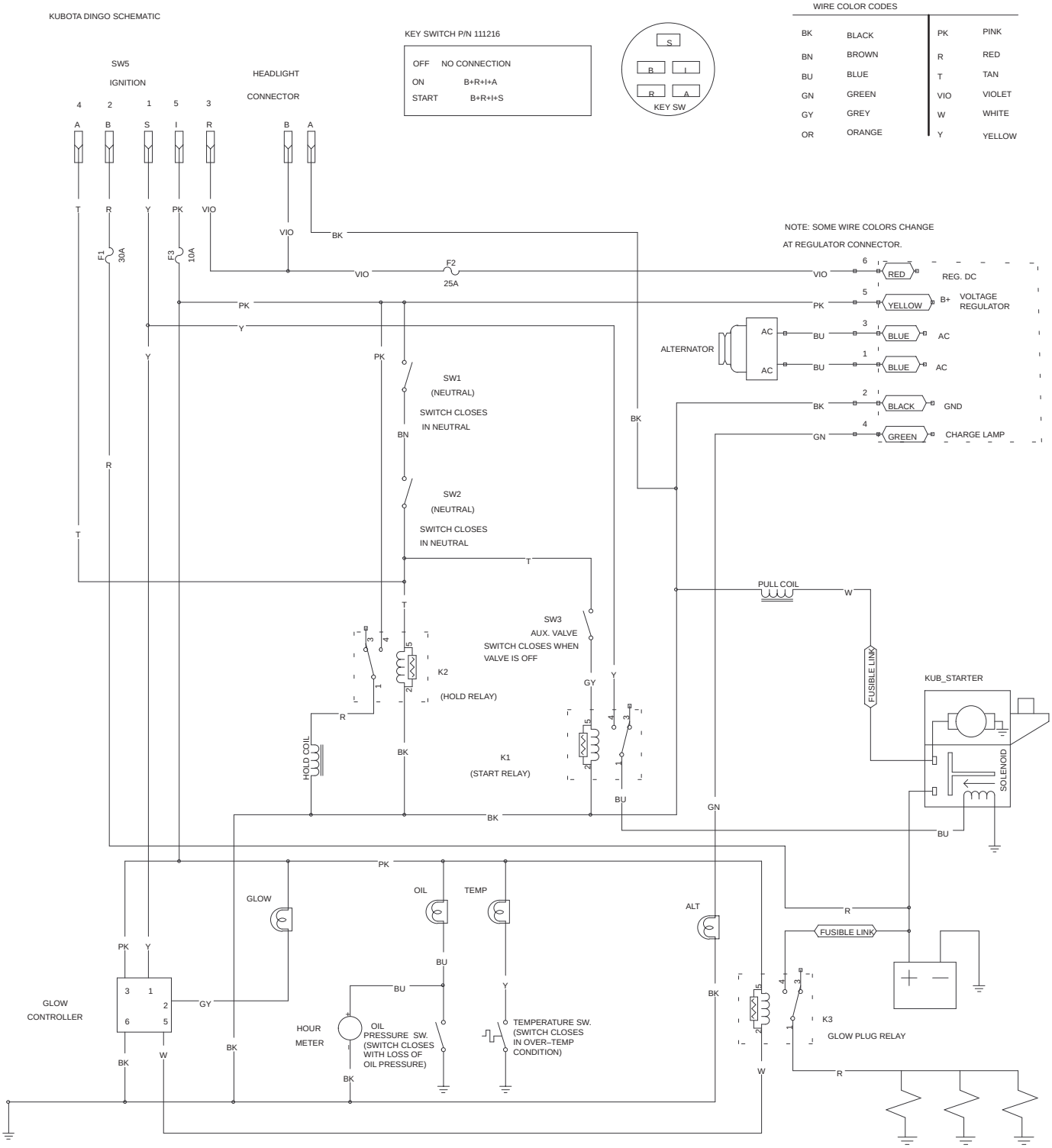

Sheet No.: 20

# Electrical Components Assembly

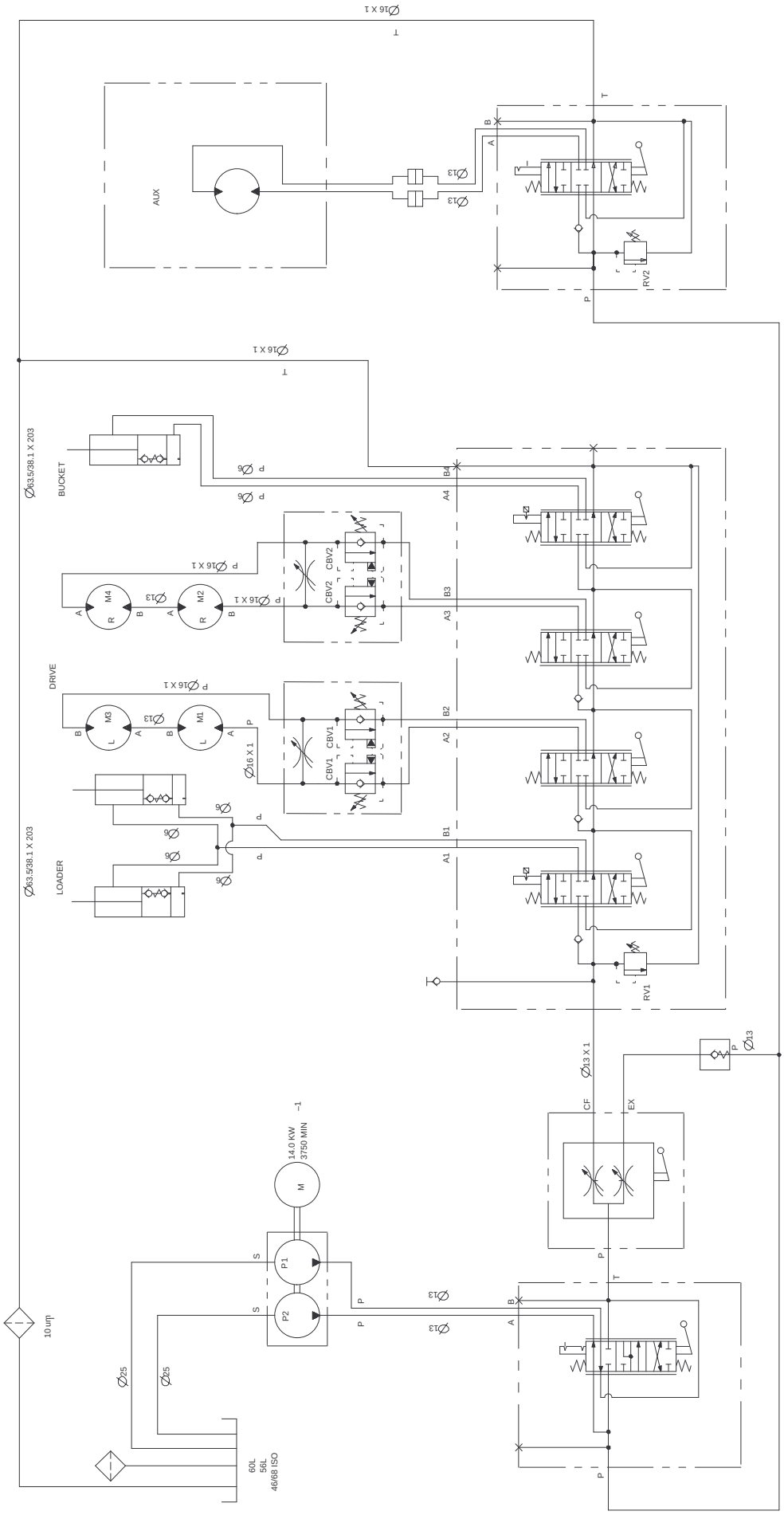
| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 3296–12 | 4 | Nut–Lock |
| 2 | 111216 | 1 | Ignition Switch ASM |
| 2:1 | 9201604 | 1 | Lockwasher |
| 2:2 | 101884 | 1 | Nut |
| 3 | 3234–33 | 3 | Screw–HHF |
| 4 | 100–1707–01 | 1 | Mount–Lamp, Warning |
| 5 | 100–1732 | 1 | Cluster–Lamp |
| 6 | 63–8360 | 2 | Key–Ignition |
| 7 | 104–7429 | 1 | Hour Meter–Dc, Mini |
| 7:1 | 104–4234 | 1 | Clip–Mounting, Hourmeter |
| 8 | 104–7410 | 1 | Wire Harness, Dingo Kubota |
| 9 | 32105–13 | 2 | Screw–SHH |
| 10 | 98–7249 | 3 | Relay |
| 11 | 32105–8 | 2 | Screw |
| 12 | 52–5910 | 1 | Ring–Retaining |
| 13 | 3272–1 | 1 | Pin–Cotter |
| 14 | 321–4 | 2 | Screw–HH |
| 15 | 99–1423 | 1 | Rod–Linkage, Threaded |
| 16 | 3220–1 | 1 | Nut–Jam |
| 17 | 99–5006 | 1 | Solenoid–Kubota |
| 18 | 2412–31 | 1 | Clamp–Boden |
| 19 | 321–6 | 1 | Screw–HH |
| 20 | 100–2057 | 1 | Regulator ASM |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 21 | 98–7611 | 1 | Controller–Glow |
| 22 | 100–2215 | 1 | Washer–Spring |
| 23 | 100–2171 | 1 | Nut–Hexagon |
| 24 | 72–4310 | 2 | Switch |
| 25 | 237–42 | 2 | O–Ring |
| 26 | 3296–42 | 8 | Nut–Lock, NI |
| 27 | 3256–21 | 1 | Washer–Flat |
| 28 | 32144–87 | 1 | Screw–Forming, Thread |
| 30 | 2412–72 | 1 | Clip–Closed, Insulated |

# Electrical Schematic

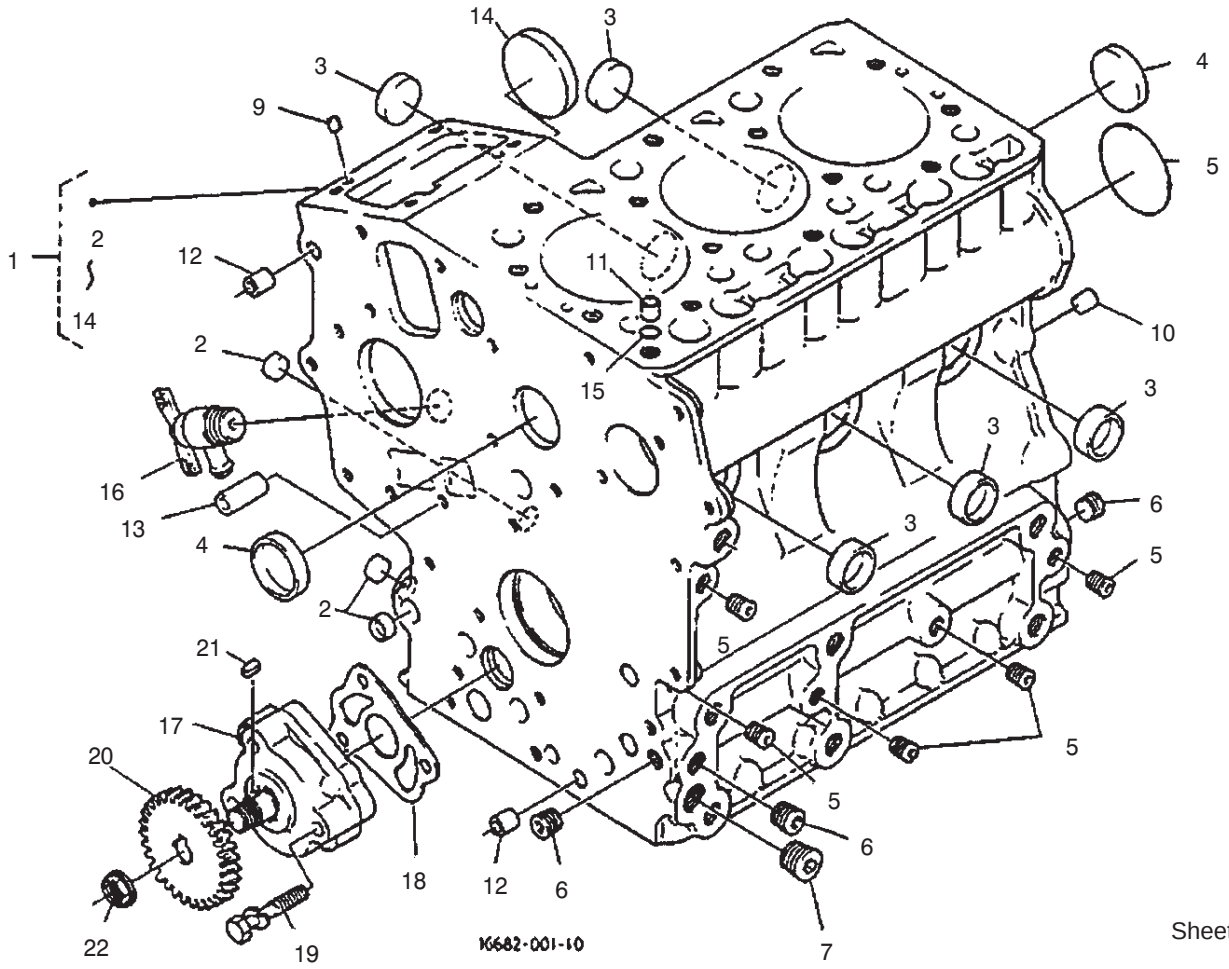


# Hydraulic Schematic




| DISPLACEMENT A | | ND PRESSURE CHART | | | FLOWRATE* | |
|---|---|---|---|---|---|---|
| COMPONENT | DISPLACEMENT | PRESSURE | | | | |
| COMPONENT | CU IN/REV | CU CM/REV | PSI | BARS | GPM | LPM |
| P1 | 0.55 CU IN | 9 CC | | | 8.5 | 32.1 |
| P2 | 0.24 CU IN | 4 CC | | | 3.7 | 14.0 |
| M1, M3 | 29.1 CU IN | 476 CC | | | | |
| M2, M4 | 29.1 CU IN | 476 CC | | | | |
| RV1 | | | 3225 PSI | 222 BARS | | |
| RV2 | | | 3000 PSI | 207 BARS | | |
| CBV1 | | | 1000 PSI | 69 BARS | | |
| CBV2 | | | 1000 PSI | 69 BARS | | |

* FLOWRATE CALCULATED AT 3750 RPM AN D 95% EFFICIENCY.

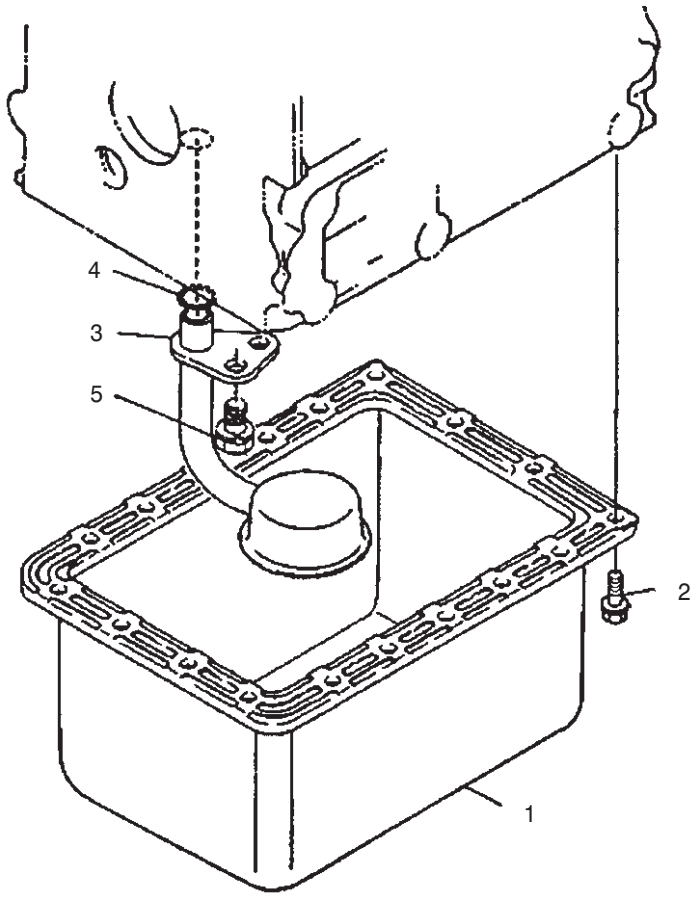



Sheet No.:2

# Crankcase Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2167 | 1 | Crankcase–Comp. |
| 2 | 100–2019 | 3 | Cap–Sealing |
| 3 | 100–2020 | 5 | Cap–Sealing |
| 4 | 98–9398 | 2 | Cap–Sealing |
| 5 | 98–7540 | 5 | Cap–Sealing |
| 6 | 98–7487 | 3 | Plug |
| 7 | 98–7488 | 1 | Plug |
| 8 | 100–1851 | 1 | Plug |
| 9 | 98–9375 | 2 | Pin–Straight |
| 10 | 98–9377 | 2 | Pin–Straight |
| 11 | 98–7506 | 1 | Pin–Pipe |
| 12 | 98–9387 | 2 | Pin–Pipe |
| 13 | 100–2051 | 2 | Pin–Pipe |
| 14 | 100–1991 | 1 | Cover–Fuel, Camshaft |
| 15 | 98–7509 | 1 | O–Ring |
| 16 | 98–9436 | 1 | Drain Cock ASM |
| 17 | 100–2002 | 1 | Oil Pump ASM |
| 18 | 100–2003 | 1 | Gasket–Pump, Oil |
| 19 | 100–1923 | 3 | Bolt |
| 20 | 100–1893 | 1 | Gear–Drive, Oil Pump |
| 21 | 98–7658 | 1 | Key–Feather |
| 22 | 100–1779 | 1 | Nut–Flange |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|



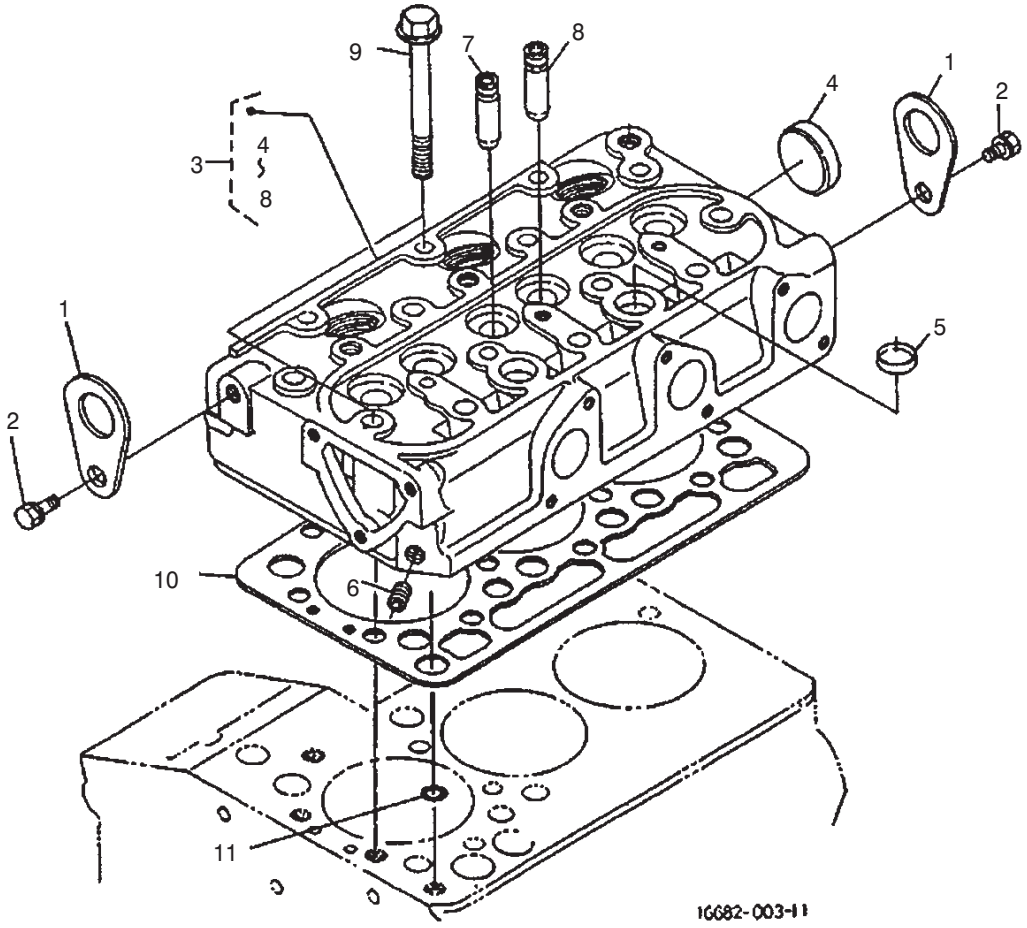

16682-002-10

Sheet No.:3

# Oil Pan Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2239 | 1 | Pan–Oil, Comp. |
| 2 | 98–9350 | 18 | Bolt |
| 3 | 100–2001 | 1 | Filter–Oil |
| 4 | 100–2205 | 1 | O–Ring |
| 5 | 98–7585 | 1 | Bolt |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|



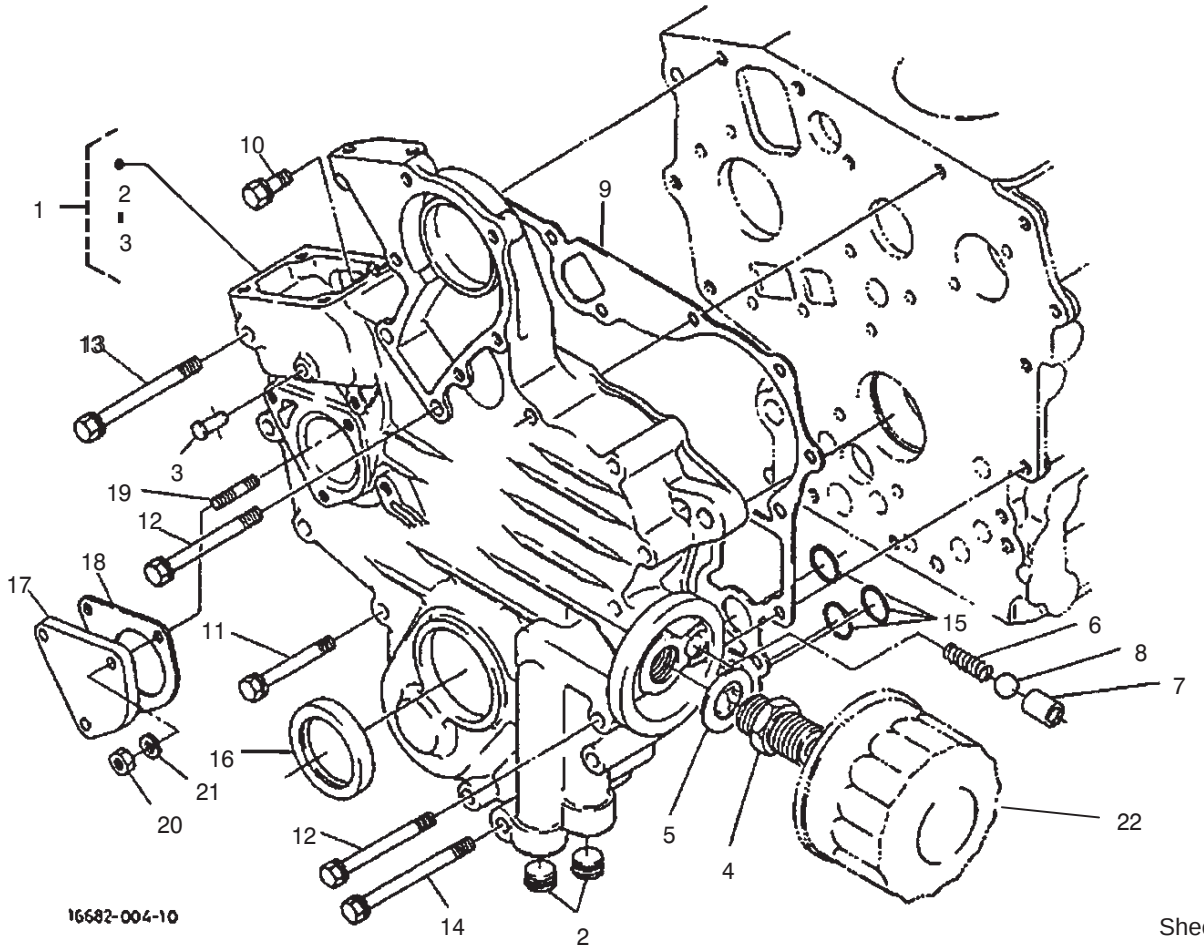

Sheet No.:4

# Cylinder Head Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 98–7531 | 2 | Hook–Engine |
| 2 | 98–7526 | 2 | Bolt |
| 3 | 100–2246 | 1 | Head–Cylinder, Comp. |
| 4 | 98–9395 | 1 | Cap–Sealing |
| 5 | 98–9389 | 2 | Cap–Sealing |
| 6 | 98–7540 | 1 | Cap–Sealing |
| 7 | 100–1882 | 3 | Guide–Valve, Inlet |
| 8 | 100–1883 | 3 | Guide–Valve, Exhaust |
| 9 | 100–1820 | 14 | Bolt–Head, Cylinder |
| 10 | 100–2043 | 1 | Gasket–Head, Cylinder |
| 11 | 98–7509 | 1 | O–Ring |
| *99 | 98–2651 | 1 | Heater–Cylinder Head |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

* Not illustrated

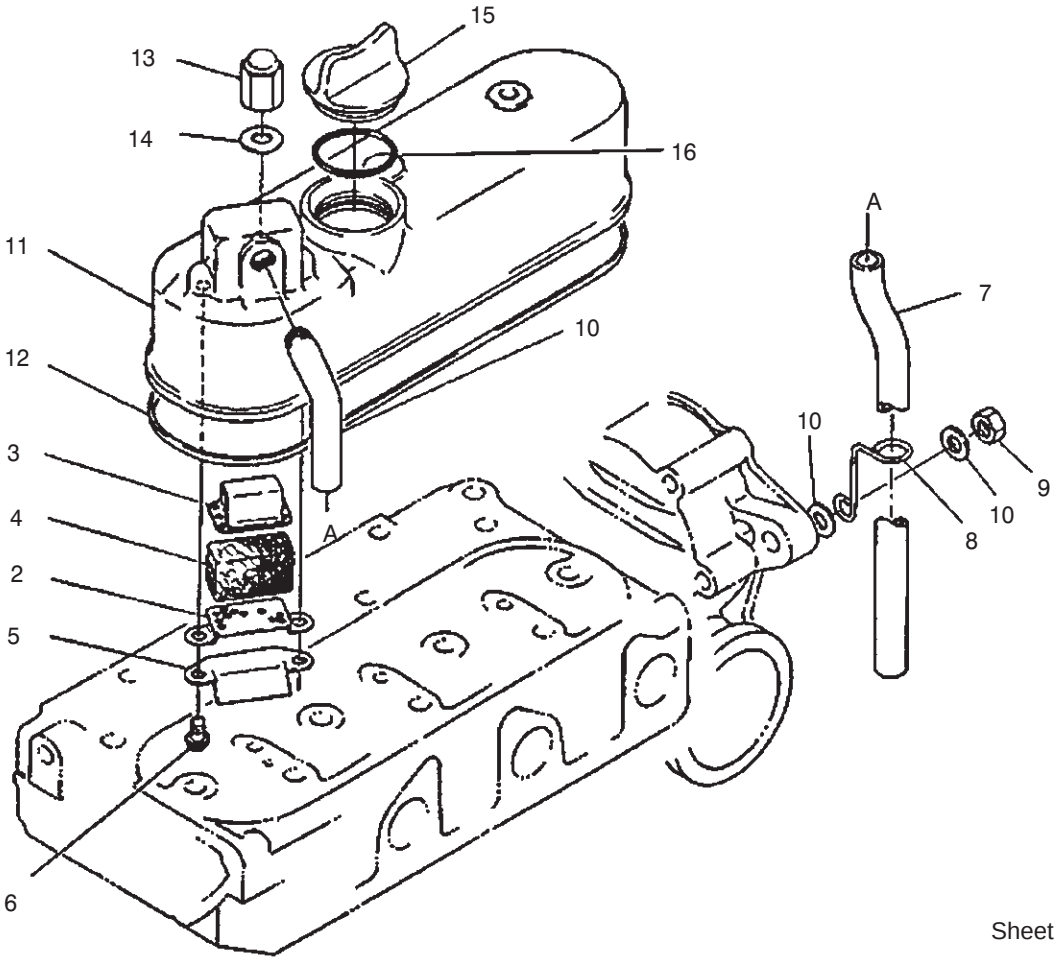



Sheet No.:5

# Gear Case Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2048 | 1 | Case–Gear, Comp. |
| 2 | 98–7546 | 2 | Plug |
| 3 | 100–1910 | 1 | Pin–Spring, Start |
| 4 | 98–9388 | 1 | Joint–Pipe |
| 5 | 100–1926 | 1 | Washer–Plain |
| 6 | 100–2004 | 1 | Spring |
| 7 | 100–1894 | 1 | Seat–Valve |
| 8 | 100–1792 | 1 | Ball |
| 9 | 100–1954 | 1 | Gasket–Case, Gear |
| 10 | 98–7605 | 1 | Bolt |
| 11 | 100–2201 | 8 | Bolt |
| 12 | 100–1922 | 5 | Bolt |
| 13 | 100–1766 | 1 | Bolt |
| 14 | 100–1767 | 1 | Bolt |
| 15 | 100–2206 | 3 | O–Ring |
| 16 | 100–1971 | 1 | Seal–Oil |
| 17 | 100–2060 | 1 | Cover |
| 18 | 100–2061 | 1 | Gasket–Gearcase, H/M |
| 19 | 98–7571 | 3 | Stud |
| 20 | 98–7572 | 3 | Nut |
| 21 | 98–9367 | 3 | Washer–Spring |
| 22 | 100–1892 | 1 | Cartridge–Filter, Oil |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

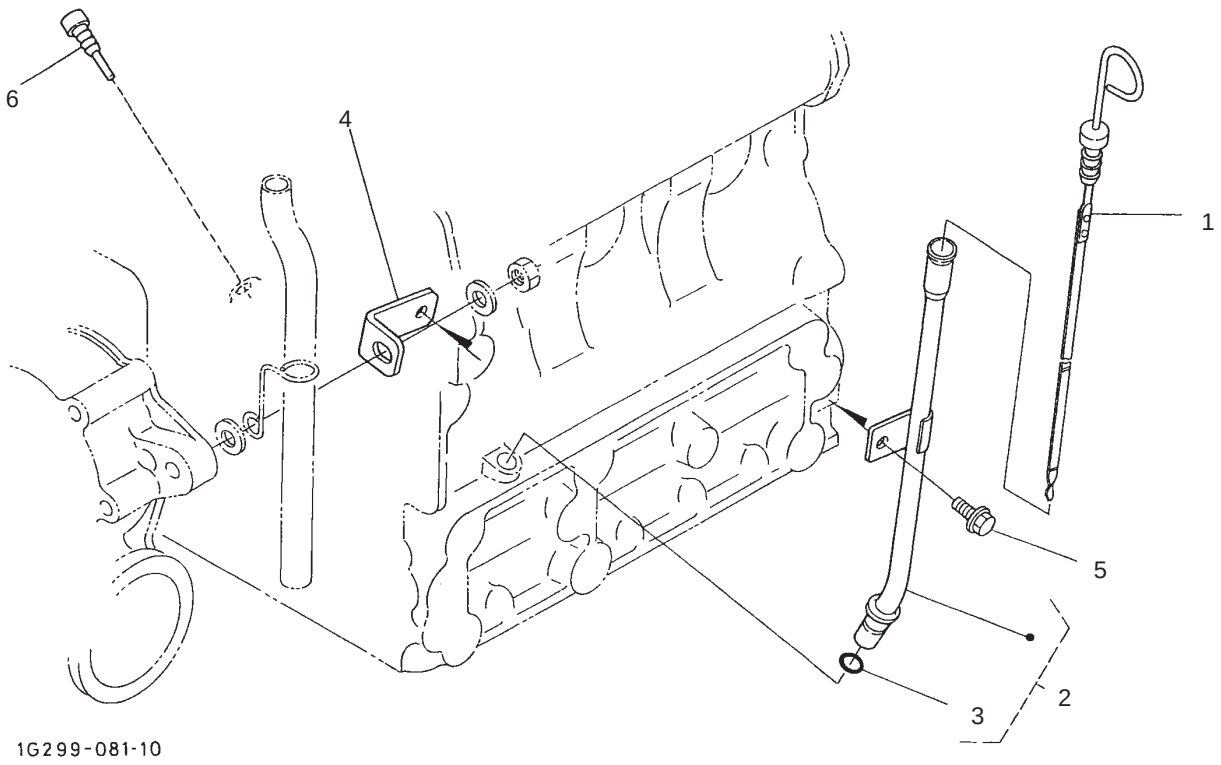



Sheet No.:6

# Head Cover Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1972 | 1 | Joint–Pipe, Breather |
| 2 | 100–1877 | 1 | Plate–Element |
| 3 | 100–1878 | 1 | Plate–Element |
| 4 | 100–1881 | 1 | Element–Breather |
| 5 | 100–1879 | 1 | Breather–Shield, Oil |
| 6 | 100–2040 | 2 | Screw |
| 7 | 100–1880 | 1 | Pipe–Breather |
| 8 | 100–1973 | 1 | Clamp–Pipe |
| 9 | 98–7739 | 1 | Nut |
| 10 | 98–7660 | 2 | Washer–Plain |
| 11 | 100–2029 | 1 | Cover–Head, Cylinder |
| 12 | 100–2030 | 1 | Gasket–Cover, Head |
| 13 | 98–7655 | 3 | Nut–Cap |
| 14 | 98–7654 | 3 | Gasket |
| 15 | 98–9449 | 1 | Plug–Filler, Oil |
| 16 | 99–3446 | 1 | O–Ring |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

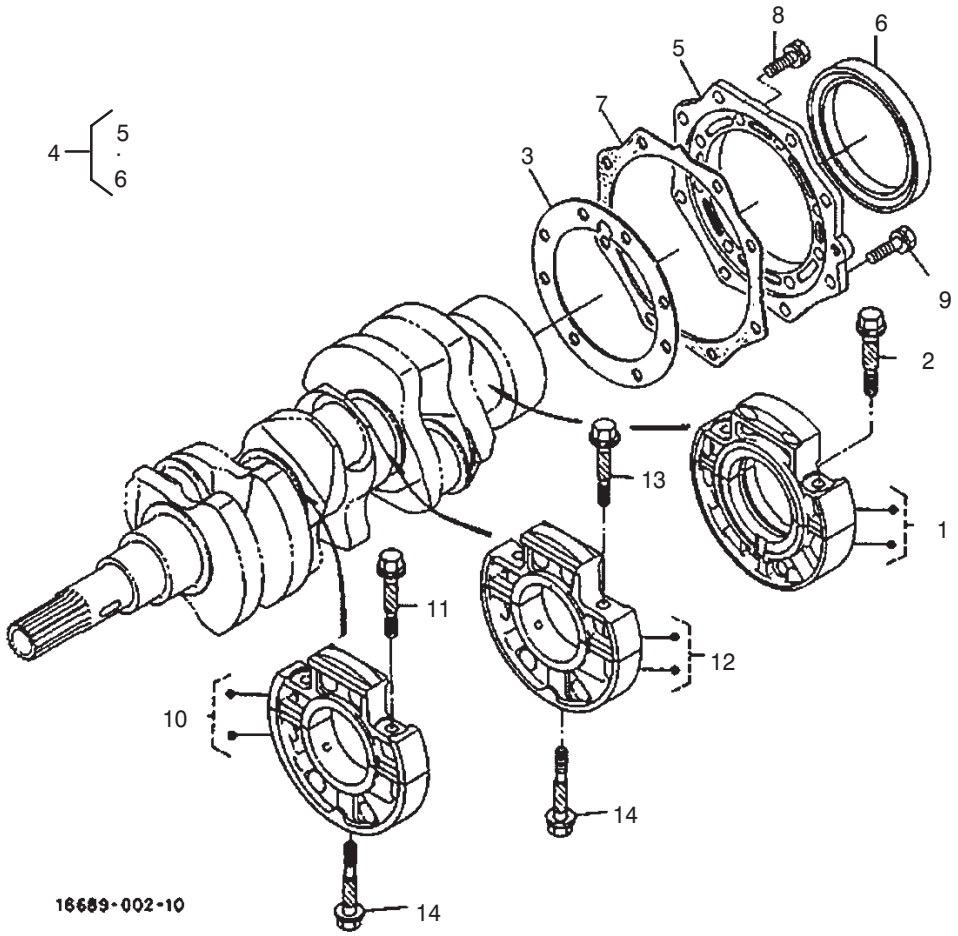



Sheet No.:7

# Dipstick and Guide Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2247 | 1 | Gauge–Oil |
| 2 | 100–2249 | 1 | Oil Gauge Guide ASM |
| 3 | 98–9374 | 1 | O–Ring |
| 4 | 100–2248 | 1 | Support–Guide, Gauge |
| 5 | 100–1774 | 1 | Bolt–Flange |
| 6 | 100–2229 | 1 | Plug–Rubber |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

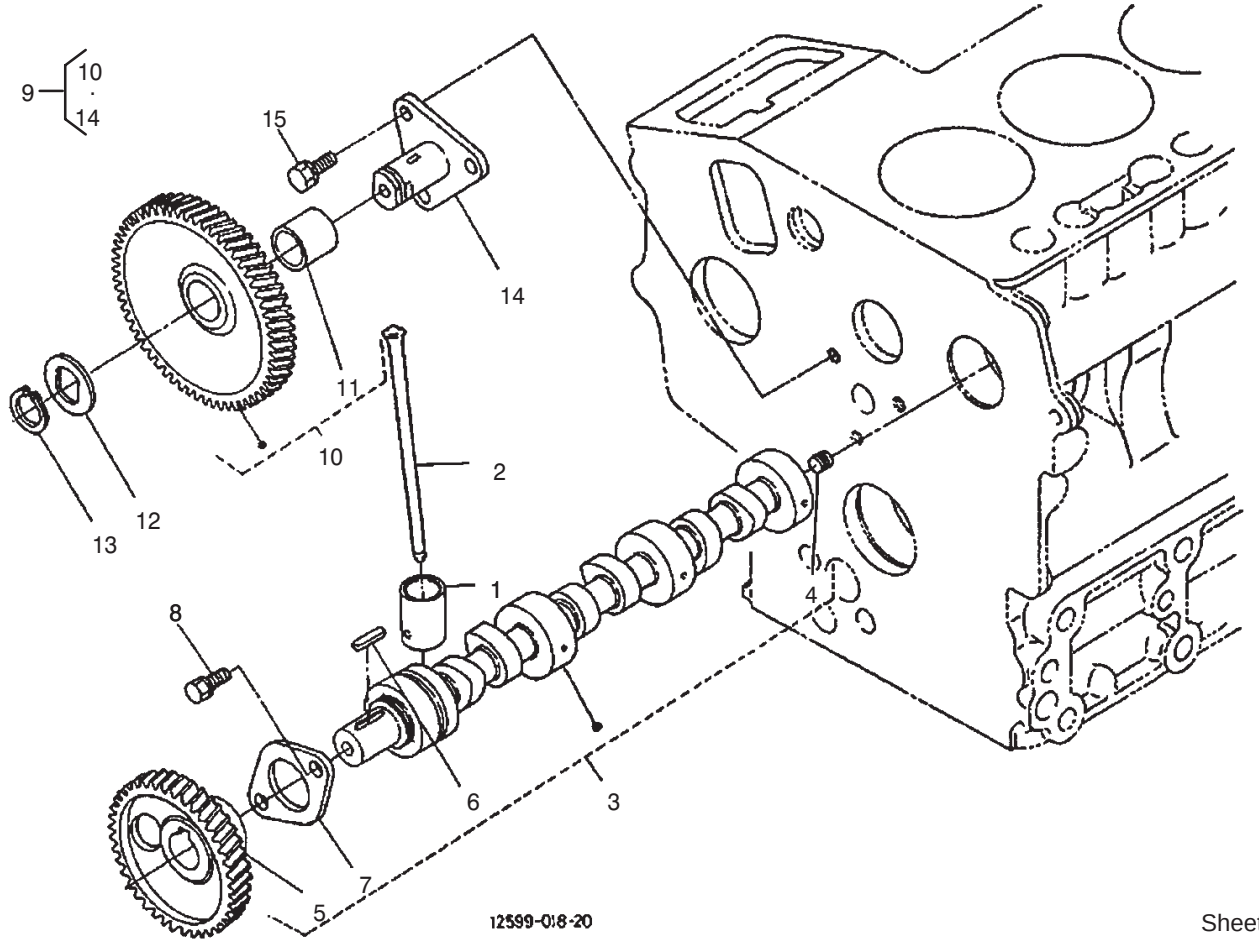



Sheet No.:8

# Main Bearing Case Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1988 | 1 | Main Brg. Case ASM |
| 2 | 100–1757 | 2 | Bolt–Case, Bearing |
| 3 | 100–1929 | 1 | Gasket–Case, Bearing |
| 4 | 100–2233 | 1 | Bearing Case Cover ASM |
| 5 | 100–1875 | 1 | Cover–Case, Bearing |
| 6 | 100–2055 | 1 | Seal–Oil |
| 7 | 100–1876 | 1 | Gasket–Case, Bearing |
| 8 | 98–7568 | 8 | Bolt |
| 9 | 100–1750 | 8 | Bolt |
| 10 | 100–1987 | 1 | Main Bearing Case ASM |
| 11 | 100–1757 | 2 | Bolt–Case, Bearing |
| 12 | 100–2027 | 1 | Main Bearing Case ASM |
| 13 | 100–1757 | 2 | Bolt–Case, Bearing |
| 14 | 100–1874 | 2 | Bolt–Case, Bearing |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

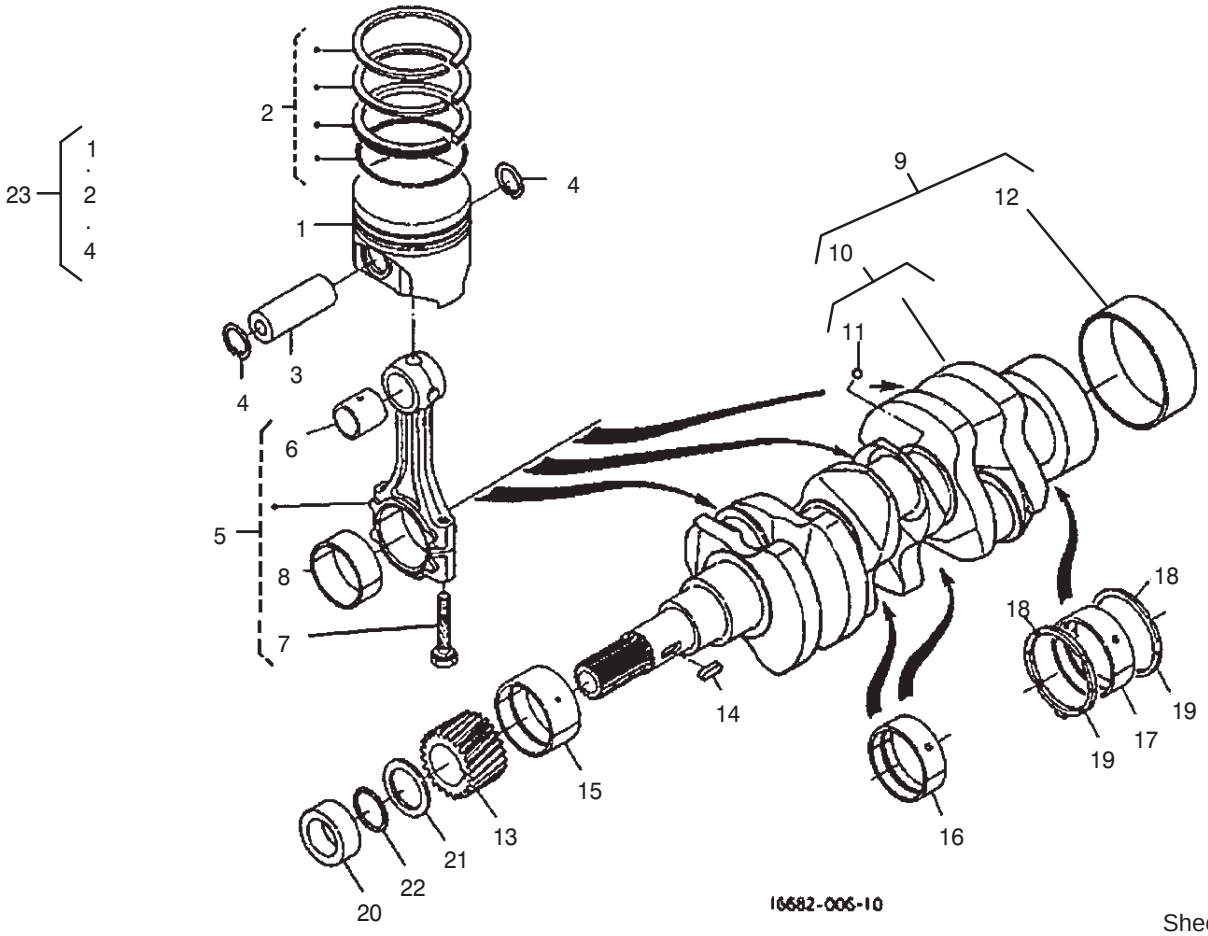



Sheet No.:9

# Camshaft Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1990 | 6 | Tappet |
| 2 | 100–1989 | 6 | Rod–Push |
| 3 | 100–2162 | 1 | Camshaft ASM |
| 4 | 98–7449 | 1 | Screw–Set |
| 5 | 100–2163 | 1 | Gear–Cam |
| 6 | 98–9378 | 1 | Key–Feather |
| 7 | 100–1887 | 1 | Camshaft–Stopper |
| 8 | 98–9350 | 2 | Bolt |
| 9 | 100–2240 | 1 | Ser/V Idle Gear ASM |
| 10 | 100–1966 | 1 | Gear–Idle, Comp. |
| 11 | 100–1968 | 1 | Bush |
| 12 | 100–1970 | 1 | Collar–Gear, Idle |
| 13 | 100–1969 | 1 | Ring–Snap |
| 14 | 100–1967 | 1 | Shaft–Gear, Idle |
| 15 | 98–9351 | 3 | Bolt |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

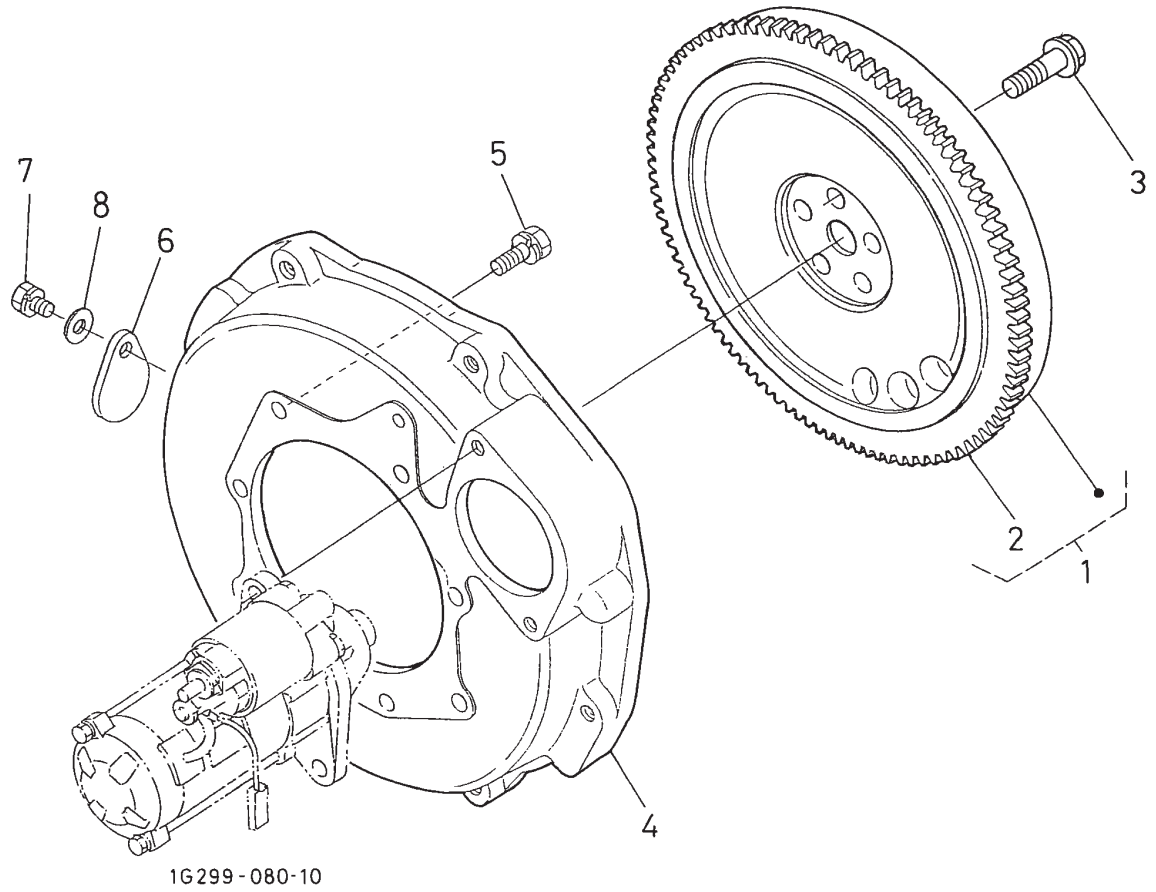



Sheet No.:10

# Piston and Crankshaft Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1994 | 3 | Piston (STD.) |
| 1 | 100–1996 | 3 | Piston (+0.25 Mm) |
| 2 | 100–2158 | 3 | Piston Ring ASM |
| 2 | 100–2159 | 3 | Piston Ring ASM |
| 3 | 100–1995 | 3 | Pin–Piston |
| 4 | 100–1835 | 6 | Cir–Cup, Piston Pin |
| 5 | 100–1998 | 3 | Connecting Rod ASM |
| 6 | 100–1997 | 3 | Bush–Pin, Piston |
| 7 | 100–1999 | 6 | Bolt–Rod, Connecting |
| 8 | 100–1942 | 3 | Crankpin–Metal (–0.2 Mm) |
| 8 | 100–1943 | 3 | Crankpin–Metal (–0.4 Mm) |
| 8 | 100–2000 | 3 | Crankpin–Metal (STD.) |
| 9 | 100–2161 | 1 | Crankshaft ASM |
| 10 | 100–2160 | 1 | Crankshaft–Comp. |
| 11 | 100–1791 | 3 | Ball |
| 12 | 100–2054 | 1 | Sleeve–Crankshaft |
| 13 | 100–1891 | 1 | Gear–Crankshaft |
| 14 | 100–1752 | 1 | Key–Feather |
| 15 | 100–1944 | 1 | Crankshaft–Metal (STD.) |
| 15 | 100–1947 | 1 | Crankshaft–Metal (–0.2 Mm) |
| 15 | 100–1948 | 1 | Crankshaft–Metal (–0.4 Mm) |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 16 | 100–1945 | 2 | Crankshaft–Metal (–0.2 Mm Set) |
| 16 | 100–1946 | 2 | Crankshaft–Metal (–0.4 Mm Set) |
| 16 | 100–2033 | 2 | Crankshaft–Metal (STD. Set) |
| 17 | 100–1870 | 1 | Crankshaft–Metal (–0.2 Mm Set) |
| 17 | 100–1871 | 1 | Crankshaft–Metal (–0.4 Mm Set) |
| 17 | 100–2032 | 1 | Crankshaft–Metal (STD. Set) |
| 18 | 100–1836 | 2 | Metal–Side (STD.) |
| 18 | 100–1838 | 2 | Metal–Side (+0.2 Mm) |
| 18 | 100–1839 | 2 | Metal–Side (+0.4 Mm) |
| 19 | 100–1837 | 2 | Metal–Side (STD.) |
| 19 | 100–1840 | 2 | Metal–Side (+0.2 Mm) |
| 19 | 100–1841 | 2 | Metal–Side (+0.4 Mm) |
| 20 | 100–1890 | 1 | Collar–Crankshaft |
| 21 | 100–1974 | 1 | Slinger–Oil |
| 22 | 100–2209 | 1 | O–Ring |
| 23 | 100–2164 | 1 | Kit–Piston |

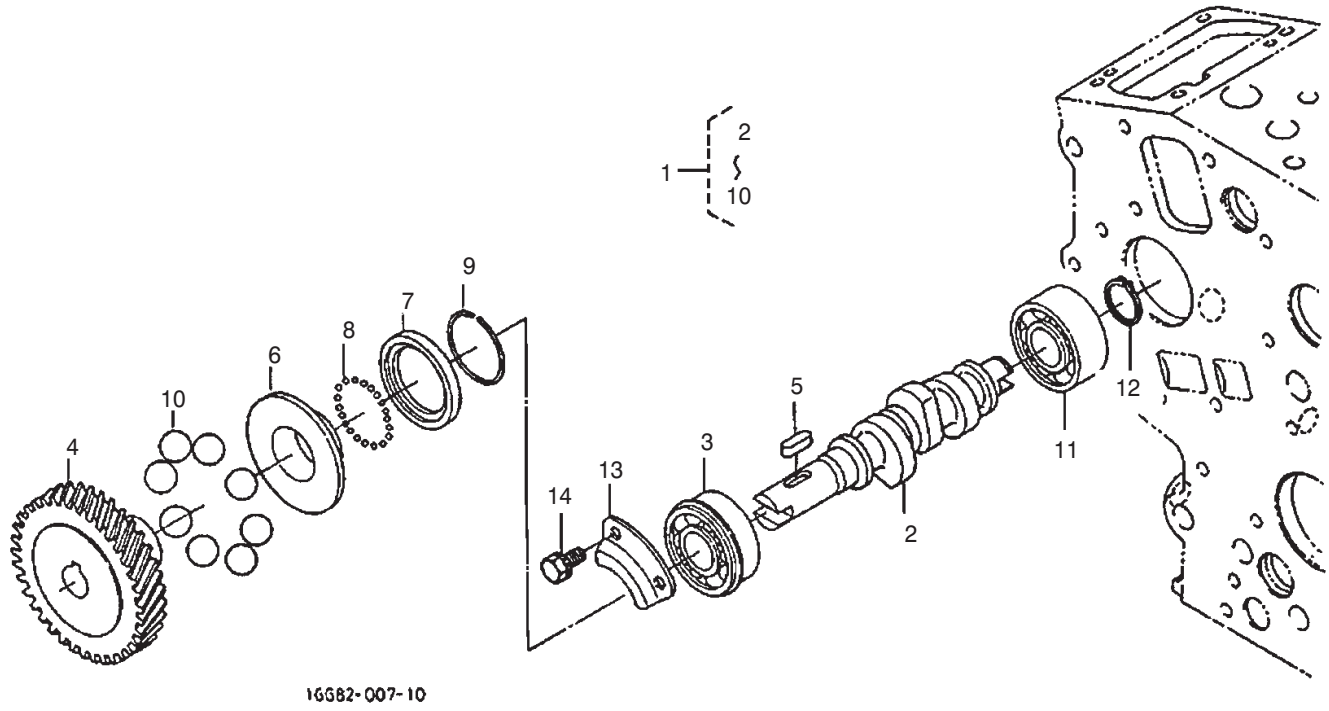



Sheet No.:11

# Flywheel Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2034 | 1 | Flywheel–Comp. |
| 2 | 100–2156 | 1 | Gear–Ring |
| 3 | 100–1930 | 1 | Bolt–Flywheel |
| 4 | 100–2234 | 1 | Housing–Flywheel |
| 5 | 98–9359 | 10 | Bolt |
| 6 | 100–2177 | 1 | Cover |
| 7 | 98–7585 | 1 | Bolt |
| 8 | 98–7660 | 1 | Washer–Plain |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

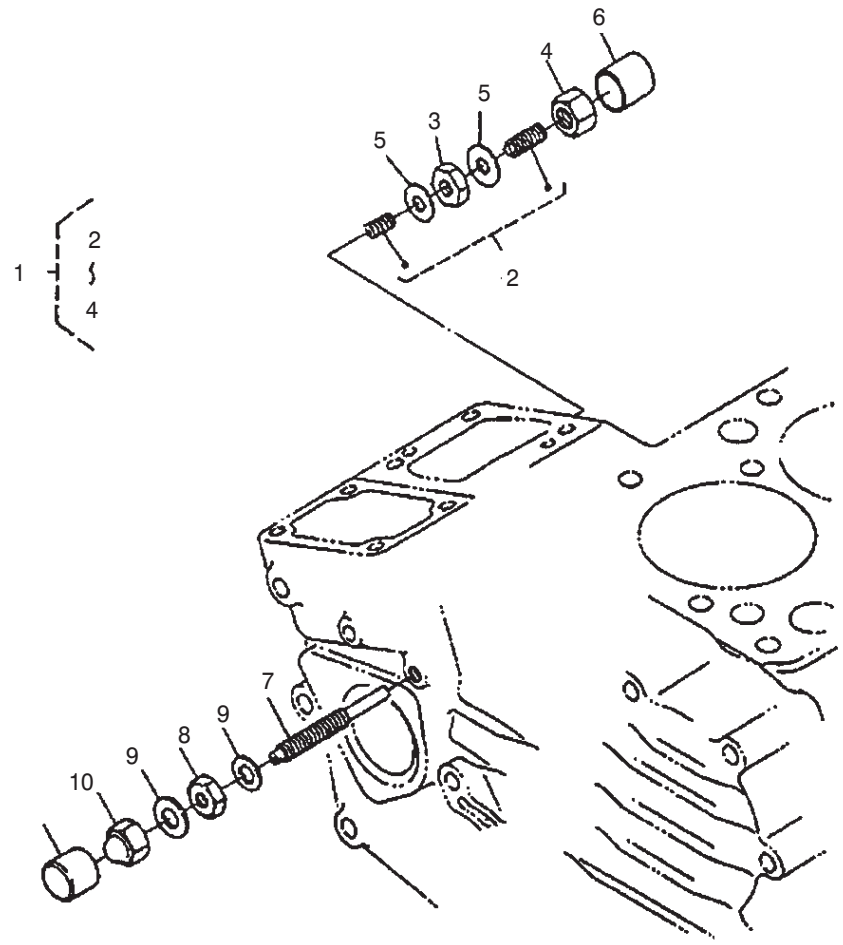



Sheet No.:12

# Fuel Camshaft Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2031 | 1 | Fuel Camshaft ASM |
| 2 | 100–1965 | 1 | Camshaft |
| 3 | 100–1795 | 1 | Bearing–Ball |
| 4 | 100–2006 | 1 | Gear–Pump, Injection |
| 5 | 100–1752 | 1 | Key–Feather |
| 6 | 100–1903 | 1 | Sleeve–Governor |
| 7 | 100–1904 | 1 | Case–Ball, Governor |
| 8 | 100–1790 | 32 | Ball |
| 9 | 100–1843 | 1 | Cir–Clip, Gov. Sleeve |
| 10 | 100–1793 | 8 | Ball |
| 11 | 100–1794 | 1 | Bearing–Ball |
| 12 | 100–1784 | 1 | Cir–Clip, External |
| 13 | 100–1888 | 1 | Stopper–Fuel, C/Shaft |
| 14 | 98–9350 | 2 | Bolt |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

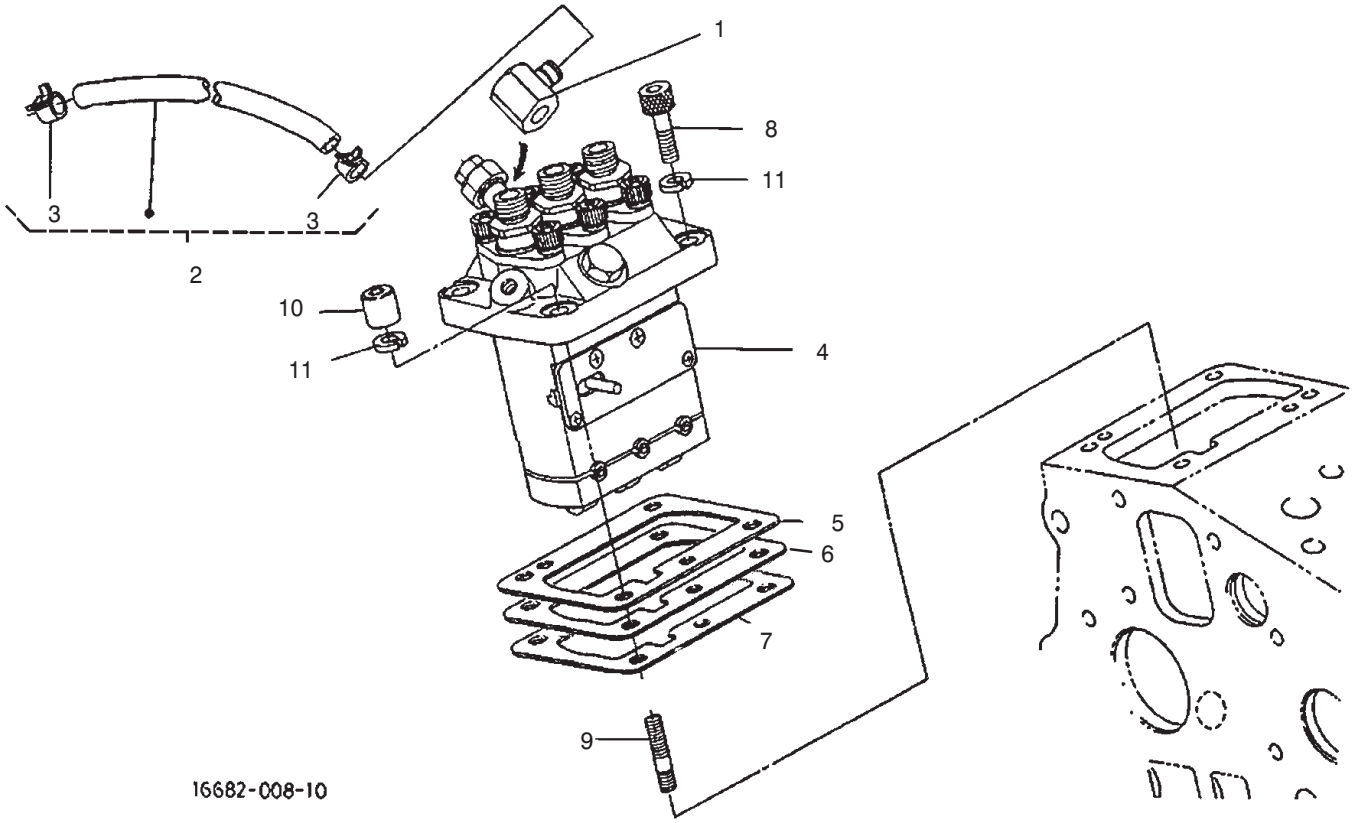



Sheet No.:13

# Engine Stop Lever Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1898 | 1 | Idle Appartus ASM |
| 2 | 100–1899 | 1 | Adjusting Bolt ASM |
| 3 | 100–1846 | 1 | Nut |
| 4 | 100–1901 | 1 | Nut–Cap |
| 5 | 98–7428 | 2 | Gasket |
| 6 | 100–1902 | 1 | Cap |
| 7 | 100–1900 | 1 | Bolt–Adjusting |
| 8 | 100–2175 | 1 | Nut–Lock |
| 9 | 98–7654 | 2 | Gasket |
| 10 | 98–9441 | 1 | Nut–Cap |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

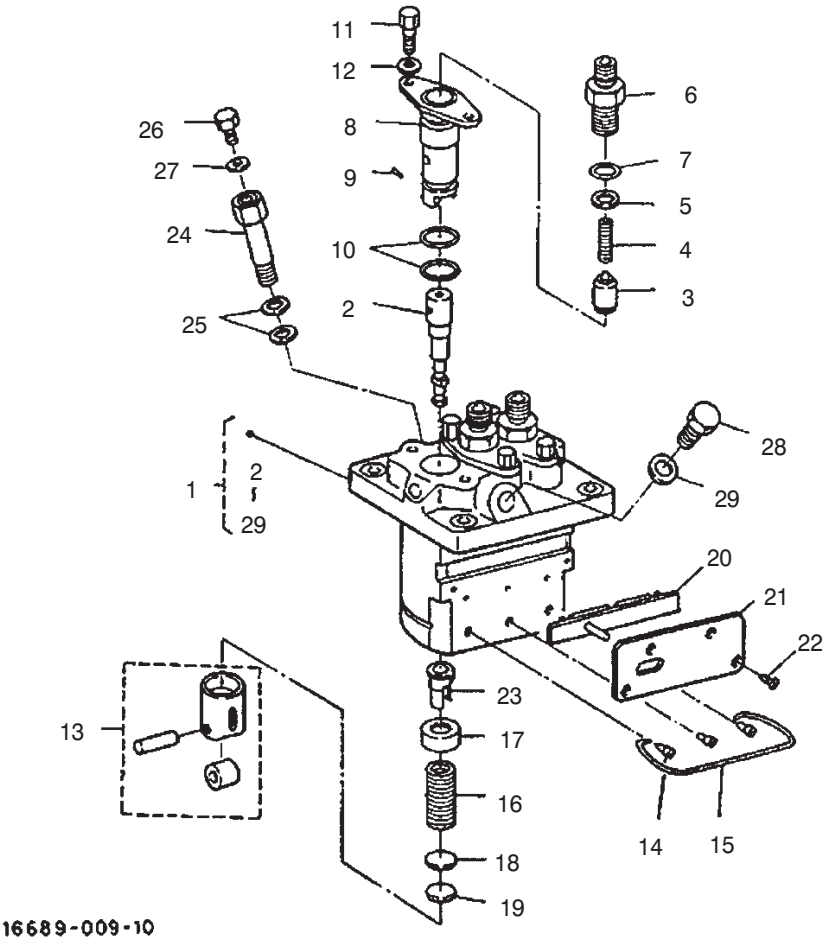



Sheet No.:14

# Injection Pump Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1928 | 1 | Joint–Eye |
| 2 | 100–1842 | 1 | Fuel Pipe ASM |
| 3 | 100–2217 | 2 | Clip–Pipe |
| 4 | 100–1759 | 1 | Inj. Pump ASM |
| 5 | 98–9456 | 1 | Shim (0.2mm) |
| 6 | 98–9457 | 1 | Shim–Injection (0.25mm) |
| 7 | 98–9458 | 1 | Shim–Injection (0.30mm) |
| 8 | 98–9361 | 2 | Bolt–HSH |
| 9 | 98–9438 | 2 | Stud |
| 10 | 98–9440 | 2 | Nut–Cap |
| 11 | 98–9367 | 4 | Washer–Spring |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|



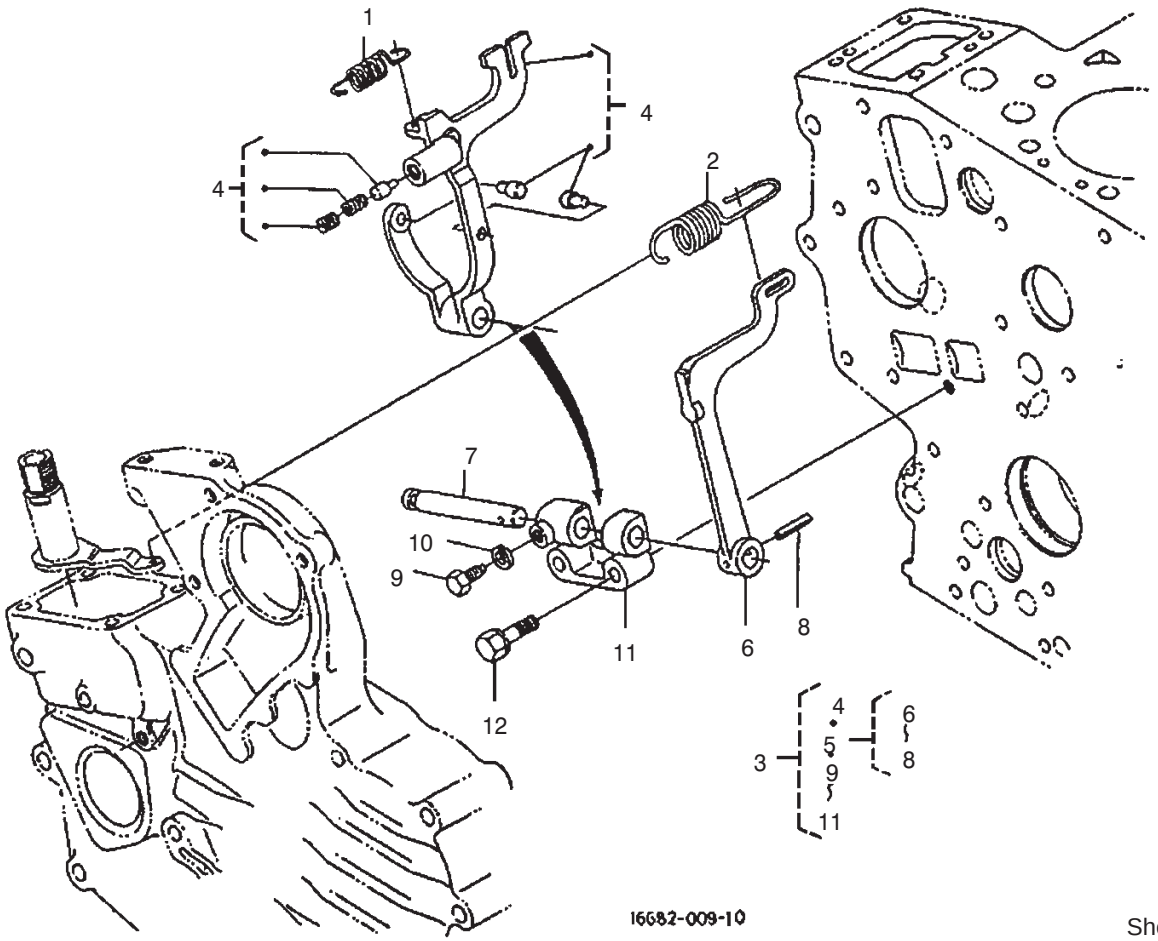

16689-009-10

Sheet No.:15

# Injection Pump (Complete Parts)

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1759 | 1 | Inj. Pump ASM |
| 2 | 100–2005 | 3 | Plunger–Pump |
| 3 | 98–9421 | 3 | Valve–Delivery |
| 4 | 98–9424 | 3 | Spring–Valve, Delivery |
| 5 | 98–9425 | 3 | Gasket–Valve, Delivery |
| 6 | 100–2007 | 3 | Holder–Valve, Deliv. |
| 7 | 98–9447 | 3 | O–Ring |
| 8 | 98–9434 | 3 | Flange–Sleeve |
| 9 | 98–9443 | 3 | Pin–Joint |
| 10 | 100–1895 | 6 | O–Ring |
| 11 | 98–9452 | 6 | Screw |
| 12 | 100–1931 | 6 | Washer |
| 13 | 98–9422 | 3 | Tappet ASM |
| 14 | 98–9426 | 3 | Pin–Guide, Tappet |
| 15 | 98–9450 | 1 | Pin–Clamp |
| 16 | 98–9428 | 3 | Spring–Plunger |
| 17 | 98–9427 | 3 | Seat–Spring, Upper |
| 18 | 98–9429 | 3 | Seat–Spring, Lower |
| 19 | 98–9433 | 3 | Shim |
| 20 | 100–1949 | 1 | Rack–Control |
| 21 | 100–1950 | 1 | Plate |
| 22 | 98–9442 | 4 | Screw |
| 23 | 98–9432 | 3 | Sleeve–Control |
| 24 | 100–1896 | 1 | Screw–Hollow |
| 25 | 98–9445 | 2 | Gasket |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 26 | 98–9430 | 1 | Screw |
| 27 | 98–9446 | 1 | Gasket |
| 28 | 100–1953 | 1 | Bolt |
| 29 | 98–9451 | 1 | Gasket |

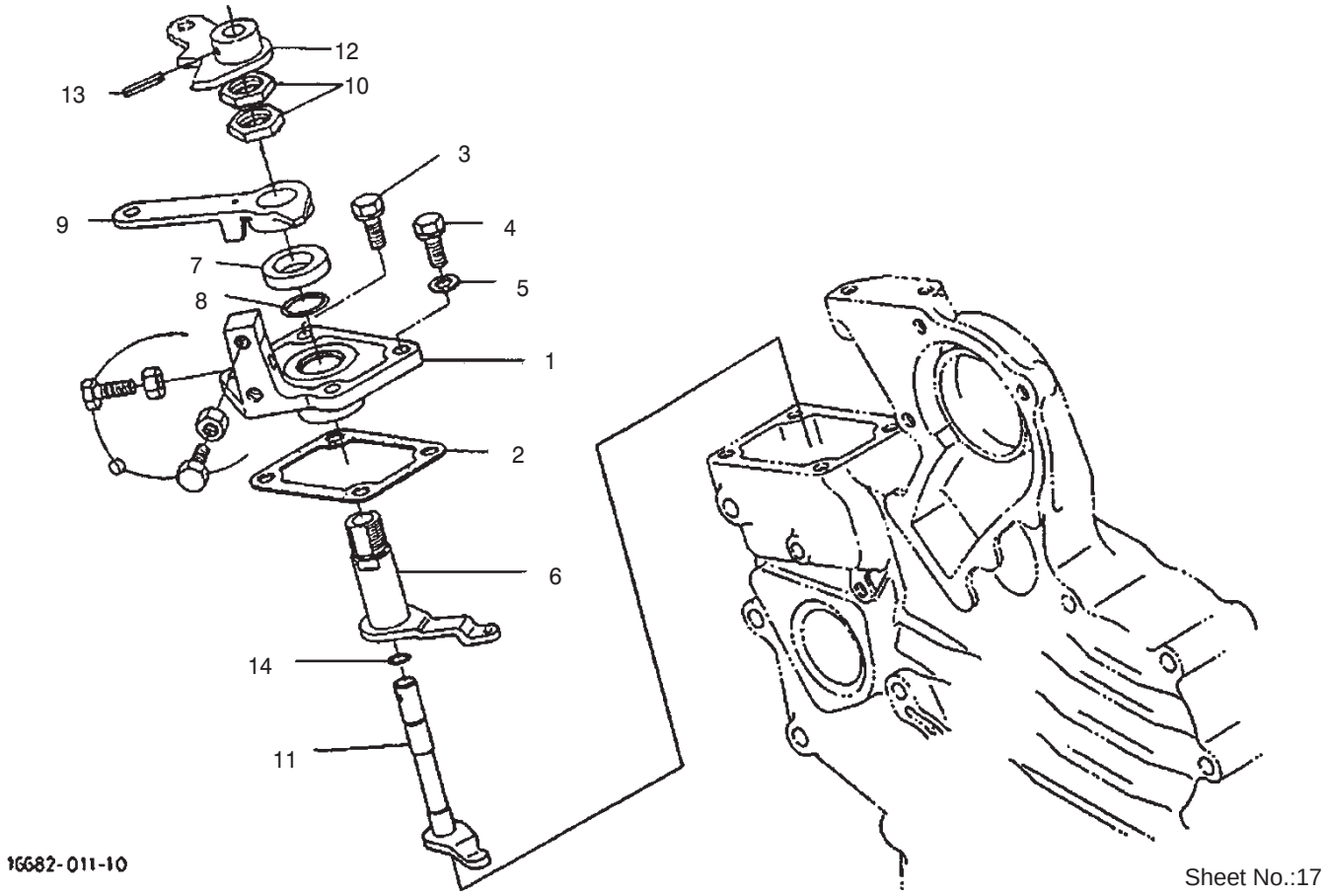



Sheet No.:16

# Governor Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1911 | 1 | Spring–Start |
| 2 | 100–2059 | 1 | Spring–Governor |
| 3 | 100–1981 | 1 | Fork Lever ASM |
| 4 | 100–2241 | 1 | Lever–Fork, Comp. |
| 5 | 100–1905 | 1 | Fork Lever ASM |
| 6 | 100–1907 | 1 | Lever–Fork |
| 7 | 100–1908 | 1 | Shaft–Lever, Fork |
| 8 | 100–1751 | 1 | Pin–Spring |
| 9 | 100–1845 | 1 | Bolt |
| 10 | 100–2204 | 1 | Washer–Spring |
| 11 | 100–1909 | 1 | Holder–Lever, Fork |
| 12 | 100–1763 | 2 | Bolt |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

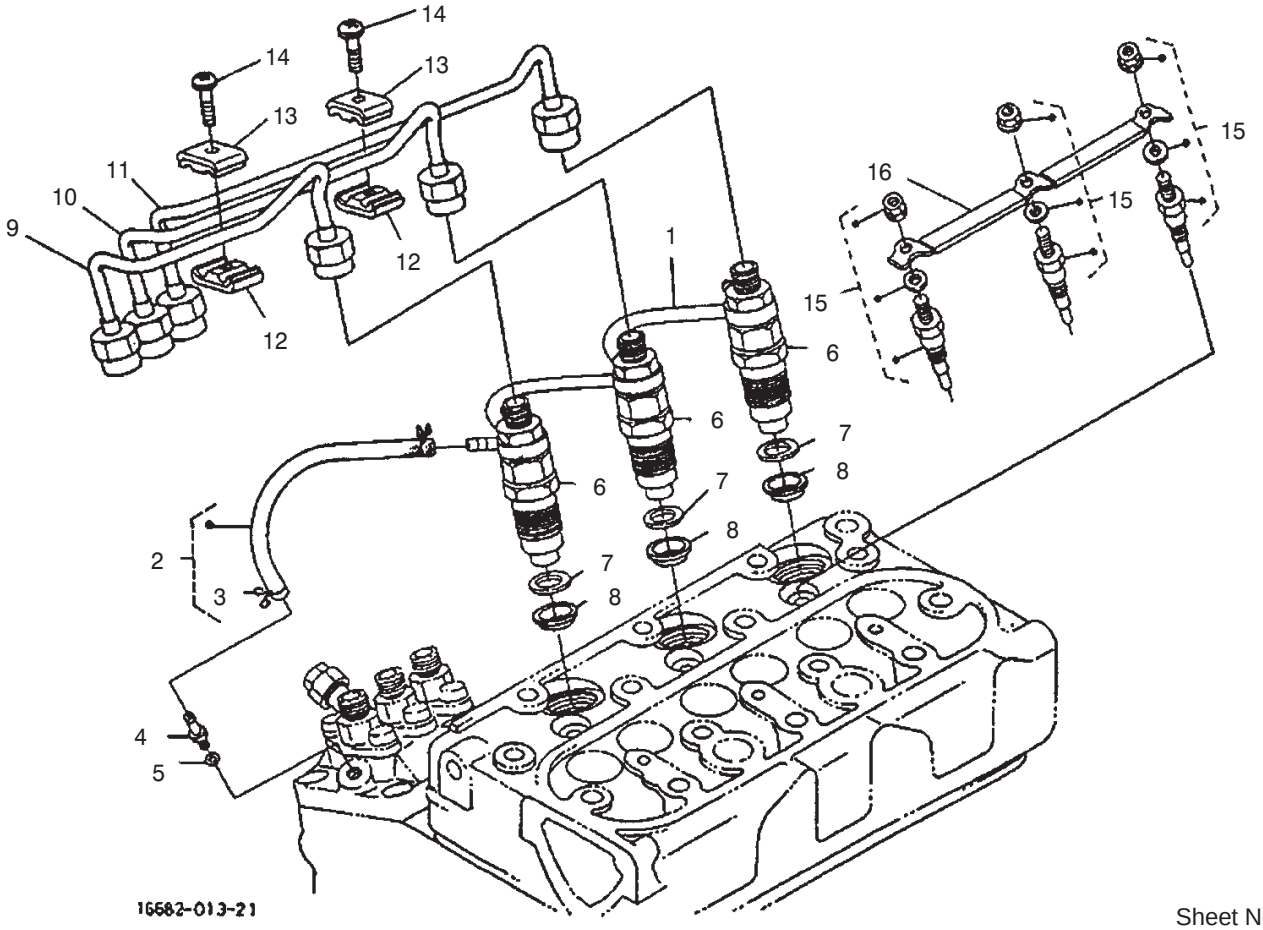



Sheet No.:17

# Speed Control Plate Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1912 | 1 | Plate–Speed, Cont. |
| 2 | 100–1914 | 1 | Gasket |
| 3 | 98–7605 | 2 | Bolt |
| 4 | 100–1769 | 2 | Bolt |
| 5 | 98–7654 | 2 | Gasket |
| 6 | 100–2172 | 1 | Lever–Governor |
| 7 | 100–1915 | 1 | Collar |
| 8 | 100–2208 | 1 | O–Ring |
| 9 | 100–1986 | 1 | Lever–Cont., Speed |
| 10 | 100–1925 | 2 | Nut |
| 11 | 100–2050 | 1 | Shaft–Lever |
| 12 | 100–2173 | 1 | Lever–Stop, Engine |
| 13 | 100–1751 | 1 | Pin–Spring |
| 14 | 100–2207 | 1 | O–Ring |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

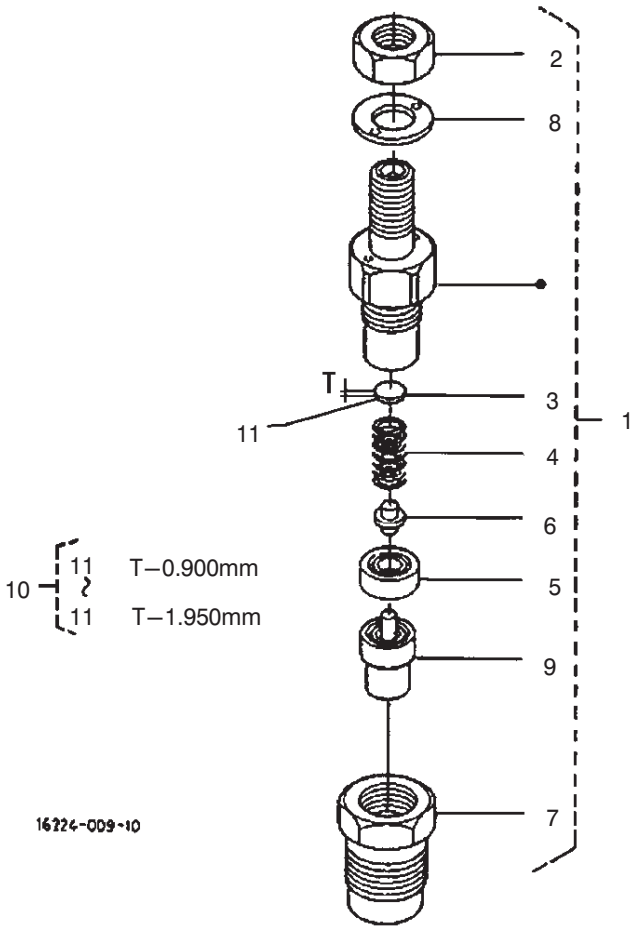



Sheet No.:18

# Nozzle Holder and Glow Plugs Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1960 | 1 | Over Flow Pipe ASM |
| 2 | 98–9420 | 1 | Over Flow Pipe ASM |
| 2:1 | 98–7671 | 1 | Clip–Pipe |
| 3 | 98–7671 | 2 | Clip–Pipe |
| 4 | 98–9431 | 1 | Screw–Bleeder |
| 5 | 98–7654 | 1 | Gasket |
| 6 | 100–1758 | 3 | Nozzle Holder ASM |
| 7 | 98–7676 | 3 | Gasket |
| 8 | 98–7677 | 3 | Seal |
| 9 | 100–2011 | 1 | Pipe–Injection |
| 10 | 100–2013 | 1 | Pipe–Injection |
| 11 | 100–2036 | 1 | Pipe–Injection |
| 12 | 98–7682 | 2 | Clamp–Pipe |
| 13 | 98–7683 | 2 | Clamp–Pipe |
| 14 | 98–7684 | 2 | Screw W/Washer |
| 15 | 100–1854 | 3 | Plug–Glow |
| 16 | 100–2037 | 1 | Cord–Plug, Glow |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

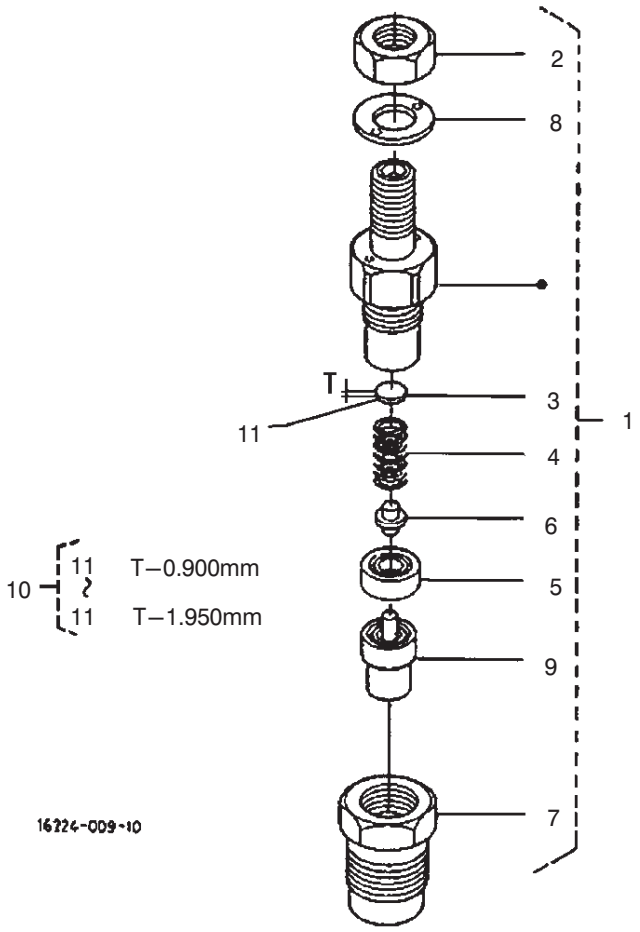



Sheet No.:19

# Nozzle Holder (Complete Parts)

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1758 | 3 | Nozzle Holder ASM |
| 2 | 98–7613 | 3 | Nut |
| 3 | 98–7642 | 3 | Washer–Adjusting |
| 4 | 98–7647 | 3 | Spring–Nozzle |
| 5 | 98–7665 | 3 | Piece–Distant |
| 6 | 98–7666 | 3 | Rod–Push |
| 7 | 100–2242 | 3 | Nut–Nozzle |
| 8 | 98–7668 | 3 | Washer |
| 9 | 100–2009 | 3 | Piece–Nozzle |
| 10 | 98–9448 | 3 | Adj Washer ASM |
| 11 | 98–7642 | 3 | Washer–Adjusting |
| 11 | 98–7841 | 3 | Washer–Adjusting |
| 11 | 98–7842 | 3 | Washer–Adjusting |
| 11 | 98–7843 | 3 | Washer–Adjusting |
| 11 | 98–7844 | 3 | Washer–Adjusting |
| 11 | 98–7845 | 3 | Washer–Adjusting |
| 11 | 98–7846 | 3 | Washer–Adjusting |
| 11 | 98–7847 | 3 | Washer–Adjusting |
| 11 | 98–7848 | 3 | Washer–Adjusting |
| 11 | 98–7849 | 3 | Washer–Adjusting |
| 11 | 98–7850 | 3 | Washer–Adjusting |
| 11 | 98–7851 | 3 | Washer–Adjusting |
| 11 | 98–7852 | 3 | Washer–Adjusting |
| 11 | 98–7853 | 3 | Washer–Adjusting |
| 11 | 98–7854 | 3 | Washer–Adjusting |
| 11 | 98–7855 | 3 | Washer–Adjusting |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 11 | 98–7856 | 3 | Washer–Adjusting |
| 11 | 98–7857 | 3 | Washer–Adjusting |
| 11 | 98–7858 | 3 | Washer–Adjusting |
| 11 | 98–7859 | 3 | Washer–Adjusting |
| 11 | 98–7860 | 3 | Washer–Adjusting |
| 11 | 98–7861 | 3 | Washer–Adjusting |
| 11 | 98–7862 | 3 | Washer–Adjusting |
| 11 | 98–7863 | 3 | Washer–Adjusting |
| 11 | 98–7864 | 3 | Washer–Adjusting |
| 11 | 98–7865 | 3 | Washer–Adjusting |
| 11 | 98–7866 | 3 | Washer–Adjusting |
| 11 | 98–7867 | 3 | Washer–Adjusting |
| 11 | 98–7868 | 3 | Washer–Adjusting |
| 11 | 98–7869 | 3 | Washer–Adjusting |
| 11 | 98–7870 | 3 | Washer–Adjusting |
| 11 | 98–7871 | 3 | Washer–Adjusting |
| 11 | 98–7872 | 3 | Washer–Adjusting |
| 11 | 98–7873 | 3 | Washer–Adjusting |
| 11 | 98–7874 | 3 | Washer–Adjusting |
| 11 | 98–7875 | 3 | Washer–Adjusting |
| 11 | 98–7876 | 3 | Washer–Adjusting |
| 11 | 98–7877 | 3 | Washer–Adjusting |
| 11 | 98–7878 | 3 | Washer–Adjusting |
| 11 | 98–7879 | 3 | Washer–Adjusting |
| 11 | 98–7880 | 3 | Washer–Adjusting |
| 11 | 98–7881 | 3 | Washer–Adjusting |

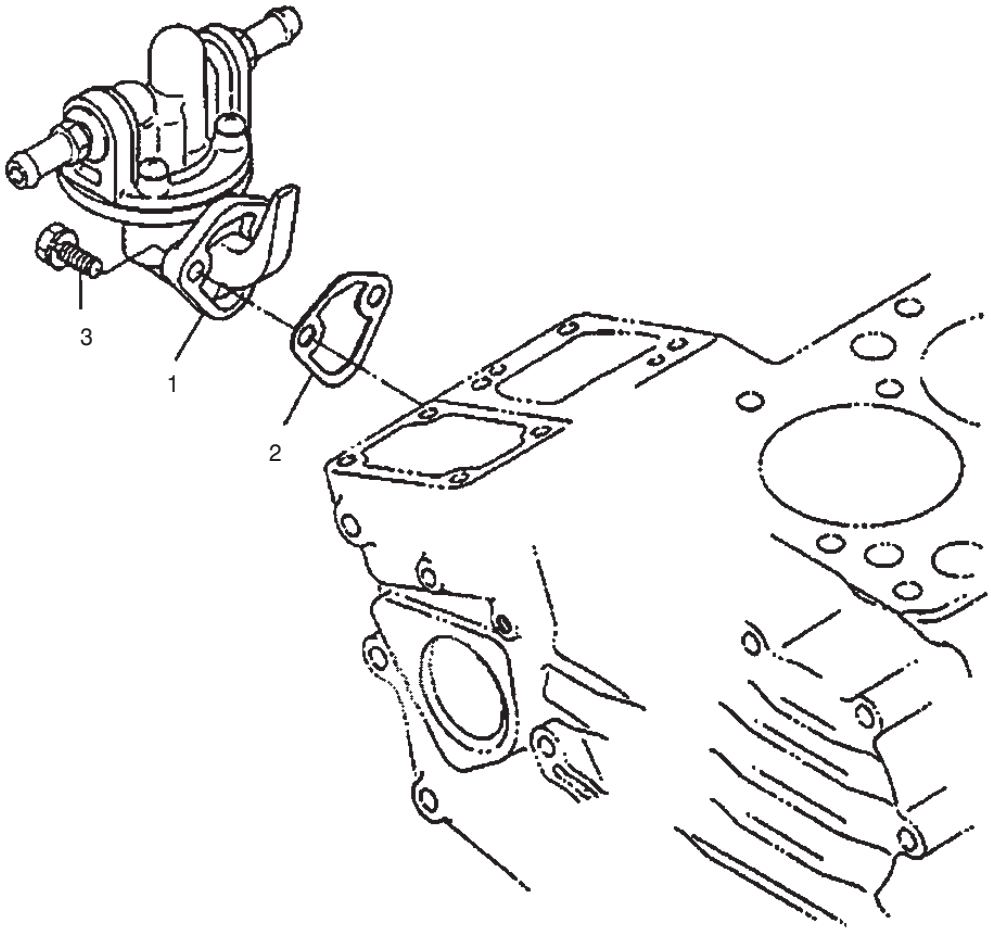



Sheet No.:19

# Nozzle Holder (Complete Parts Continued)

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 11 | 98–7882 | 3 | Washer–Adjusting |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

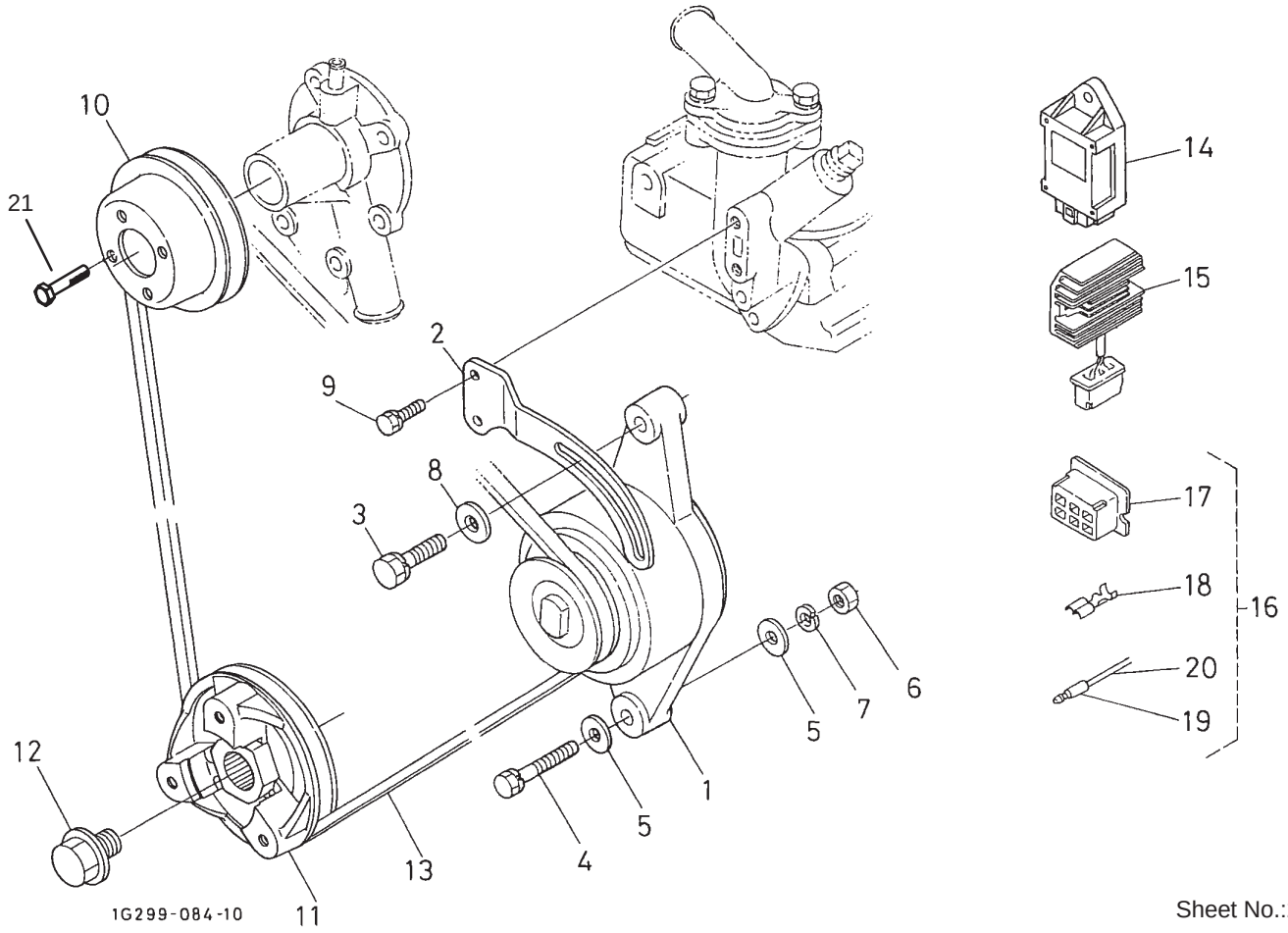



Sheet No.:20

# Fuel Pump (Mechanical)

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2232 | 1 | Fuel Pump ASM |
| 2 | 98–9636 | 1 | Gasket–Pump, Fuel |
| 3 | 98–7692 | 2 | Bolt |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

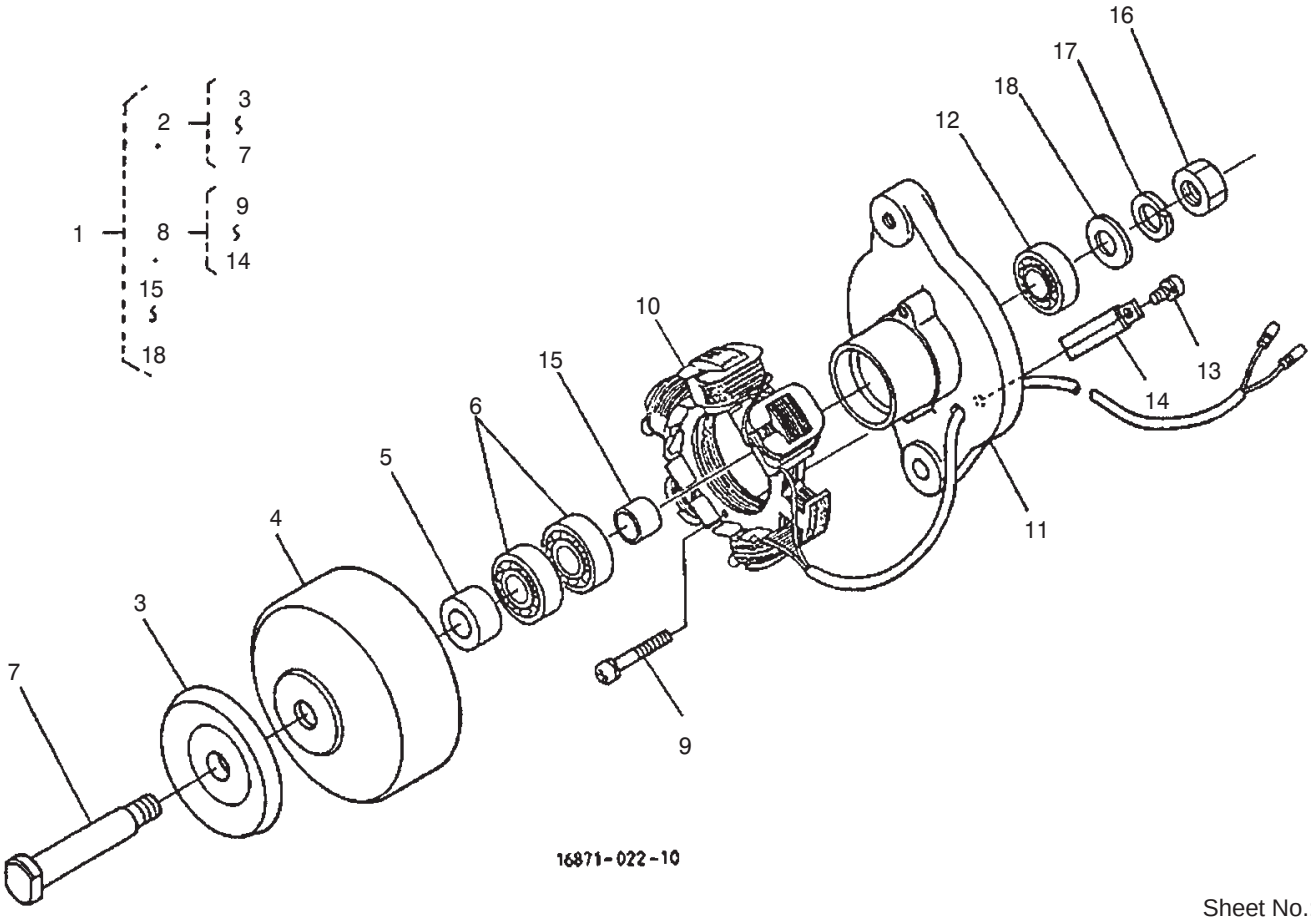



Sheet No.:21

# Dynamo and Pulley Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2168 | 1 | Dynamo ASM |
| 2 | 100–2214 | 1 | Stay–Dynamo |
| 3 | 98–7697 | 1 | Bolt |
| 4 | 100–1771 | 1 | Bolt |
| 5 | 98–7660 | 2 | Washer–Plain |
| 6 | 98–7739 | 1 | Nut |
| 7 | 98–7535 | 1 | Washer–Spring |
| 8 | 100–1782 | 1 | Washer–Plain |
| 9 | 98–7692 | 2 | Bolt |
| 10 | 100–1921 | 1 | Pulley–Fan |
| 11 | 100–2039 | 1 | Pulley–Drive, Fan |
| 12 | 100–1978 | 1 | Bolt |
| 13 | 100–1979 | 1 | V–Belt |
| 14 | 98–7611 | 1 | Controller–Glow |
| 15 | 100–2057 | 1 | Regulator ASM |
| 16 | 100–2058 | 1 | Coupler ASM |
| 17 | 100–2056 | 1 | Connector |
| 18 | 98–9699 | 6 | Terminal |
| 19 | 98–9701 | 2 | Terminal |
| 20 | 98–9702 | 2 | Sleeve |
| 21 | 100–1773 | 4 | Bolt–Flange |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

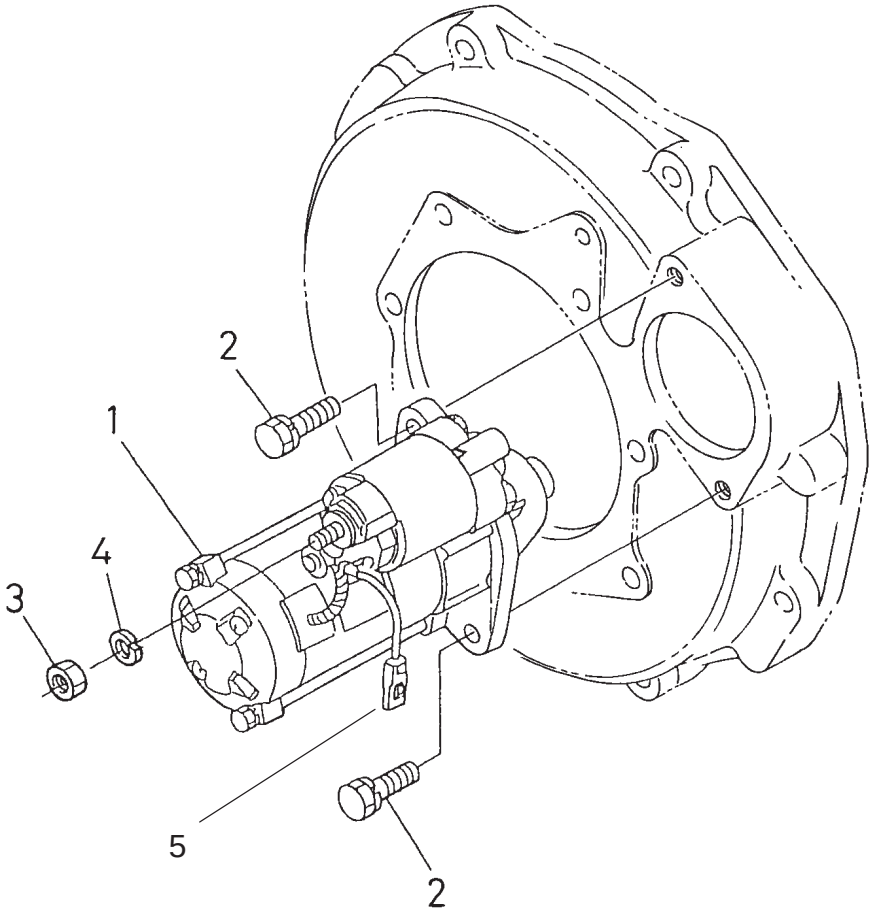



Sheet No.:22

# Dynamo (Complete Parts)

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2168 | 1 | Dynamo ASM |
| 2 | 100–1862 | 1 | Rotor–Comp. |
| 3 | 100–2228 | 1 | Pulley |
| 4 | 100–1860 | 1 | Rotor |
| 5 | 100–2184 | 1 | Collar |
| 6 | 100–1756 | 2 | Bearing–Ball |
| 7 | 100–1867 | 1 | Shaft–Fan |
| 8 | 100–1866 | 1 | Stator–Comp. |
| 9 | 100–1848 | 2 | Screw–Head, Round |
| 10 | 100–1865 | 1 | Stator |
| 11 | 100–1861 | 1 | Plate |
| 12 | 100–1756 | 1 | Bearing–Ball |
| 13 | 100–1868 | 1 | Screw–Head, Round |
| 14 | 100–1864 | 1 | Clamp–Cord |
| 15 | 100–1844 | 1 | Collar |
| 16 | 100–1847 | 1 | Nut |
| 17 | 100–1850 | 1 | Washer–Spring |
| 18 | 100–1849 | 1 | Washer–Plain |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|



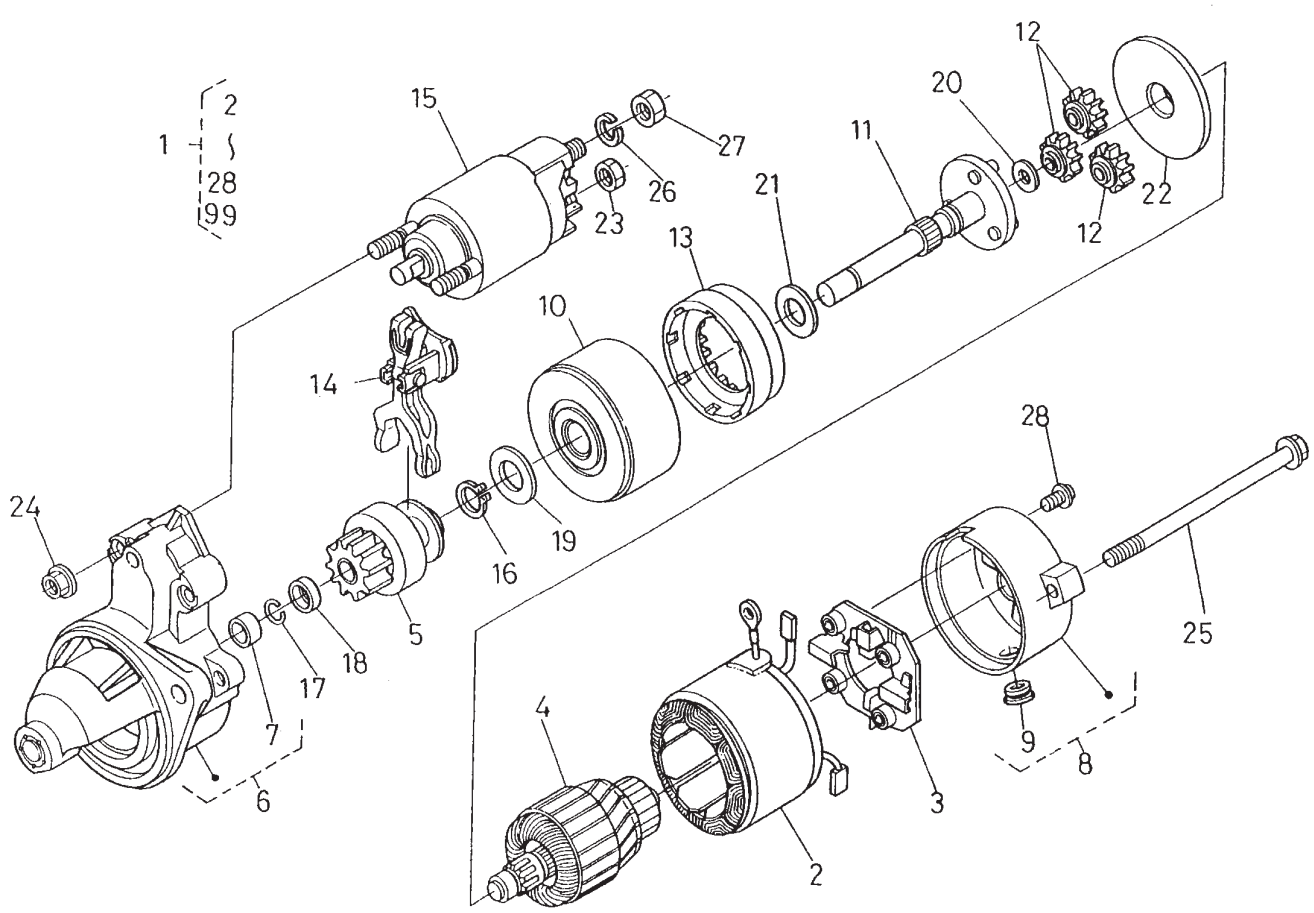

1G299-085-10

Sheet No.:23

# Starter Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2179 | 1 | Starter ASM |
| 2 | 98–7438 | 2 | Bolt |
| 3 | 98–7739 | 1 | Nut |
| 4 | 98–7535 | 1 | Washer–Spring |
| 5 | 99–1434 | 1 | Wire–Lead |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|



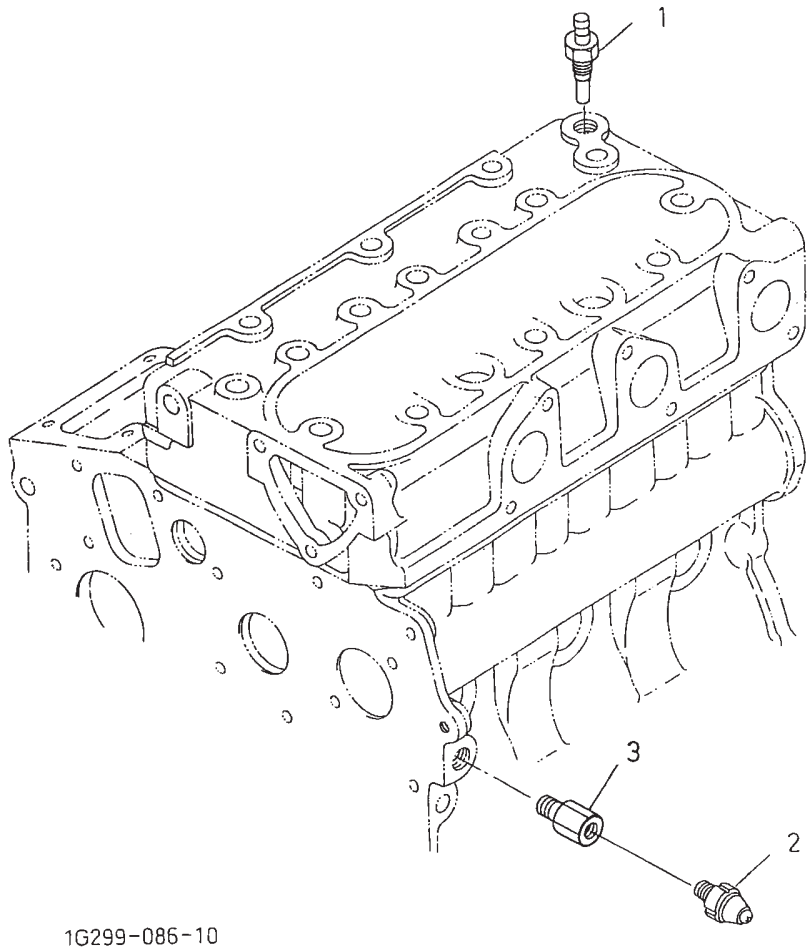

67992–001–10

Sheet No.:24

# Starter (Complete Parts)

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2179 | 1 | Starter ASM |
| 2 | 100–2181 | 1 | Starter Yoke ASM |
| 3 | 100–2222 | 1 | Holder ASM |
| 4 | 100–2182 | 1 | Armature ASM |
| 5 | 100–2185 | 1 | Starter Clutch ASM |
| 6 | 100–2180 | 1 | Starter Housing ASM |
| 7 | 100–2183 | 1 | Bearing |
| 8 | 100–2186 | 1 | Frame ASM |
| 9 | 100–2213 | 1 | Cover |
| 10 | 100–2223 | 1 | Bearing ASM |
| 11 | 100–2187 | 1 | Starter Shaft ASM |
| 12 | 100–2220 | 3 | Gear |
| 13 | 100–2221 | 1 | Gear |
| 14 | 100–2218 | 1 | Lever |
| 15 | 100–2211 | 1 | Magnetic Switch ASM |
| 16 | 100–2219 | 1 | Ring–Snap |
| 17 | 100–2212 | 1 | Ring–Snap |
| 18 | 100–2216 | 1 | Collar |
| 19 | 100–2224 | 1 | Washer–Plain |
| 20 | 100–2225 | 1 | Washer–Plain |
| 21 | 100–2226 | 1 | Washer–Plain |
| 22 | 100–2227 | 1 | Plate |
| 23 | 100–2243 | 1 | Nut–Hexagon |
| 24 | 100–1813 | 2 | Nut |
| 25 | 100–2210 | 2 | Bolt–Through |
| 26 | 100–2215 | 1 | Washer–Spring |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 27 | 100–2171 | 1 | Nut–Hexagon |
| 28 | 100–2188 | 2 | Screw |
| 99 | 99–1434 | 1 | Wire–Lead |



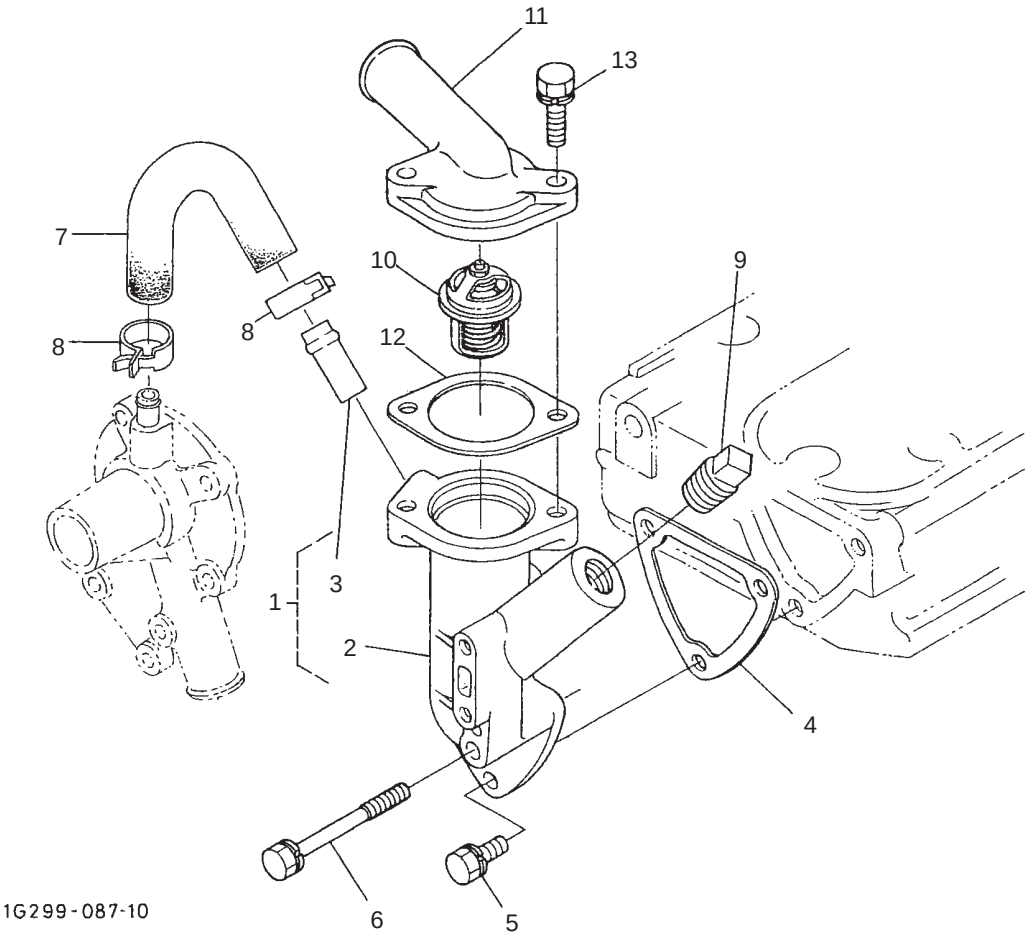

1G299-086-10

Sheet No.:25

# Oil Switch and Thermoswitch Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 99–3582 | 1 | Thermoswitch |
| 2 | 98–7764 | 1 | Switch–Oil |
| 3 | 100–2170 | 1 | Holder–Signal, Oil |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

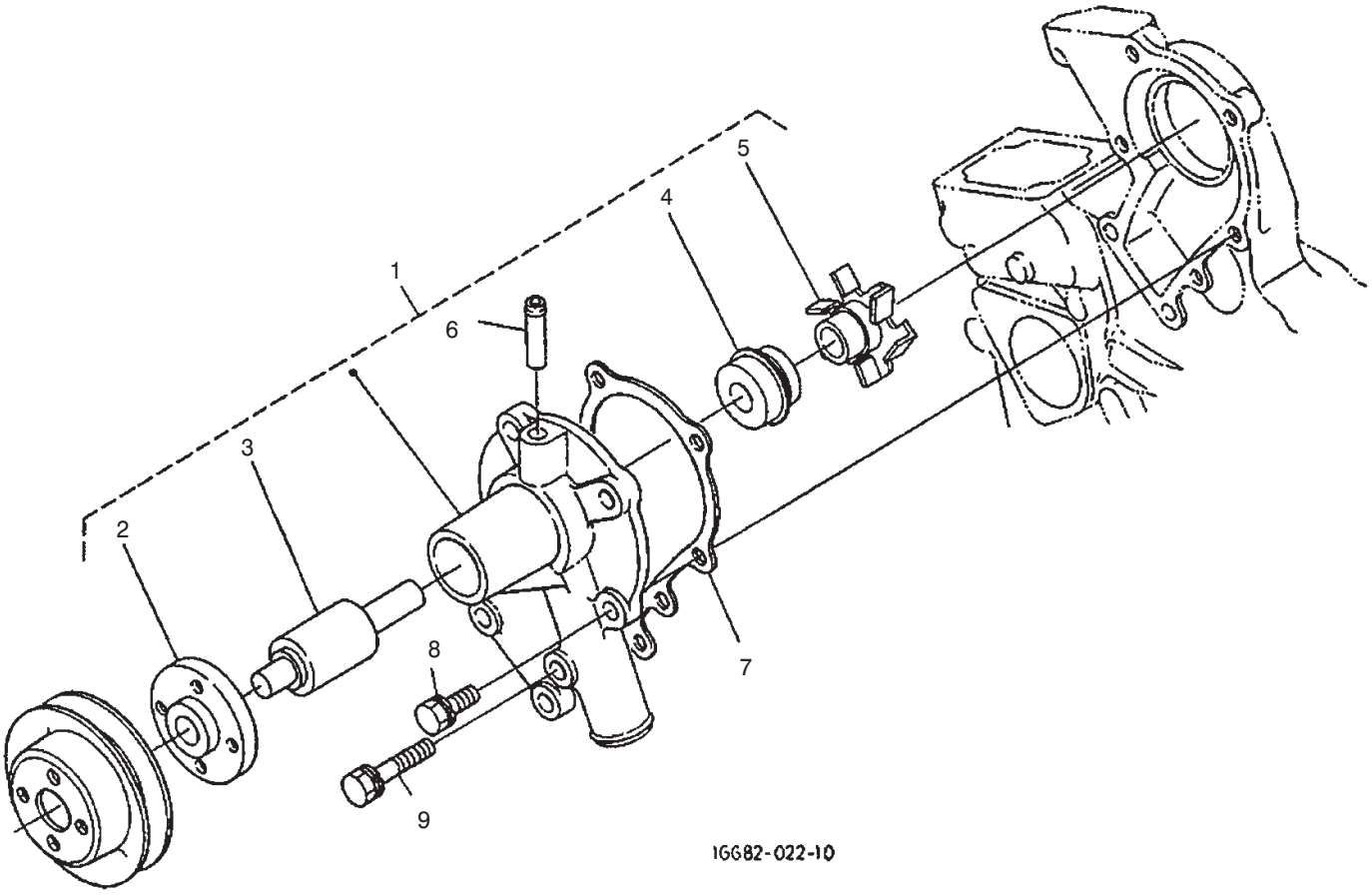



Sheet No.:26

# Water Flange and Thermostat Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2165 | 1 | Flange–Water, Comp. |
| 2 | 100–2166 | 1 | Flang–Water |
| 3 | 98–9580 | 1 | Pipe–Return, Water |
| 4 | 100–1919 | 1 | Gasket–Flange, Water |
| 5 | 98–7692 | 2 | Bolt |
| 6 | 100–2201 | 1 | Bolt |
| 7 | 100–2017 | 1 | Pipe–Return, Water |
| 8 | 98–9579 | 2 | Band–Pipe |
| 9 | 100–2169 | 1 | Plug |
| 10 | 100–2053 | 1 | Thermostat ASM |
| 11 | 100–2231 | 1 | Cover–Thermostat |
| 12 | 100–2157 | 1 | Gasket–Thermostat |
| 13 | 98–9353 | 2 | Bolt |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

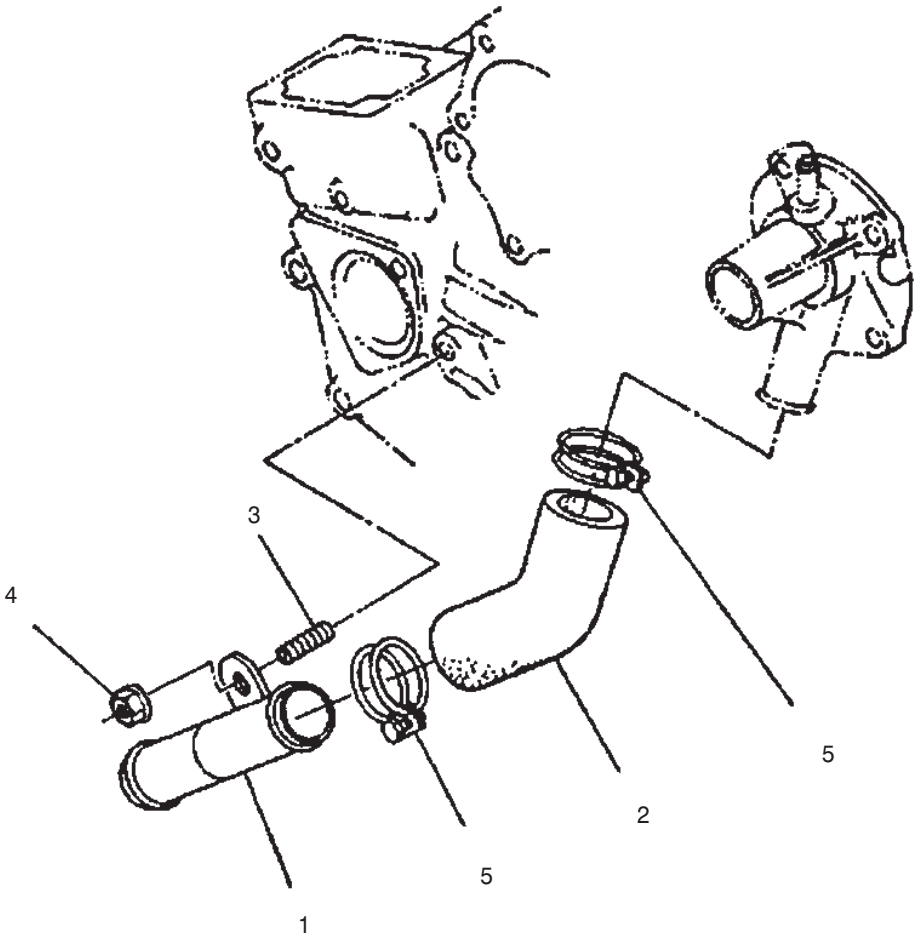



Sheet No.:27

# Water Pump Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2065 | 1 | Water Pump ASM |
| 2 | 100–1933 | 1 | Flange–Pump, Water |
| 3 | 100–1934 | 1 | Bearing–Ball |
| 4 | 99–3518 | 1 | Water Pump Seal ASM |
| 5 | 100–2067 | 1 | Impeller–Pump, Water |
| 6 | 100–1932 | 1 | Pipe–Return, Water |
| 7 | 100–1976 | 1 | Gasket–Pump, Water |
| 8 | 100–1750 | 4 | Bolt |
| 9 | 100–1764 | 1 | Bolt |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

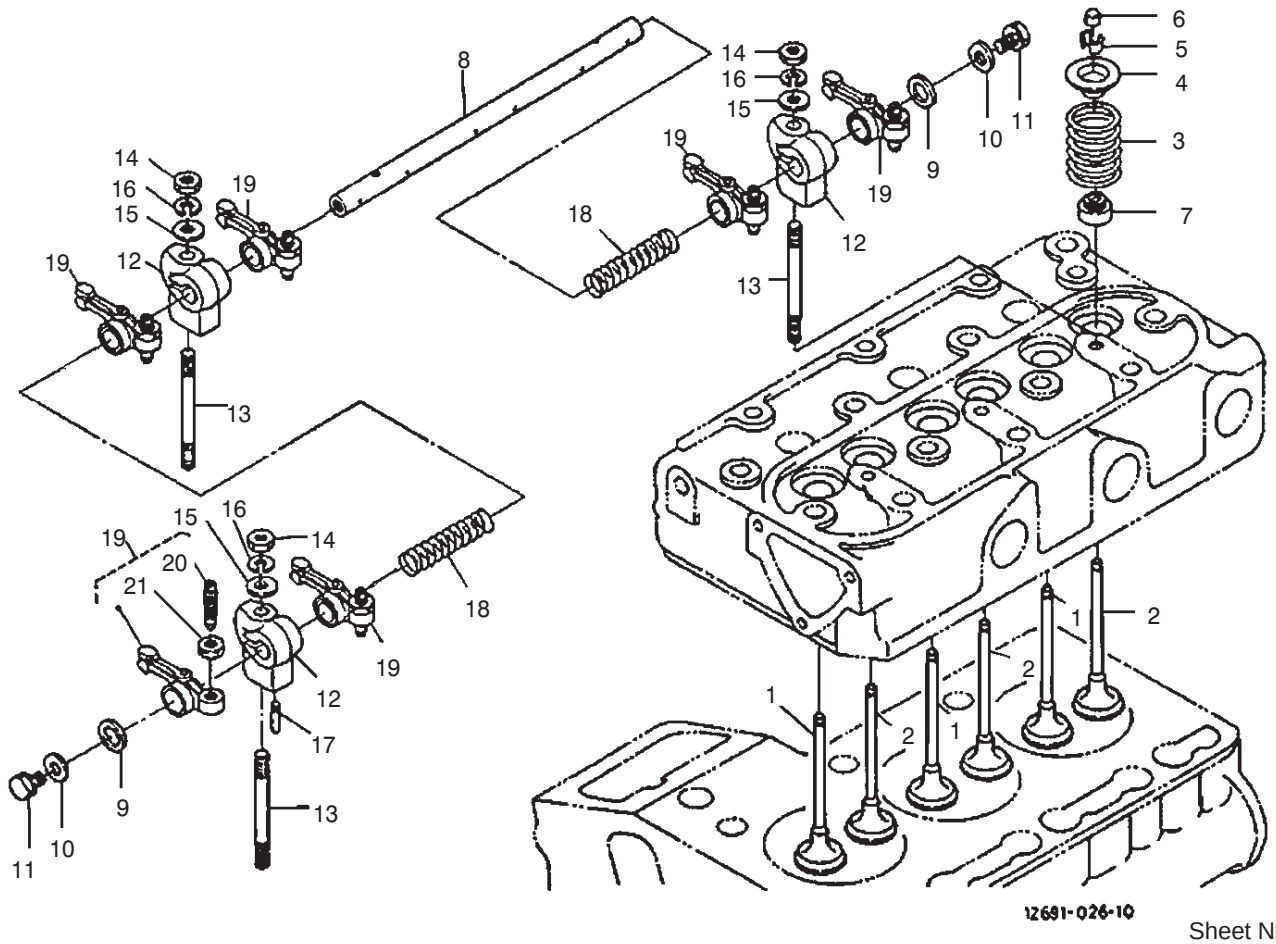



Sheet No.:28

# Water Pipe Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1918 | 1 | Pipe–Water |
| 2 | 100–1975 | 1 | Pipe–Water |
| 3 | 100–1924 | 1 | Stud |
| 4 | 100–2203 | 1 | Nut–Flange |
| 5 | 100–1753 | 2 | Clamp–Hose |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

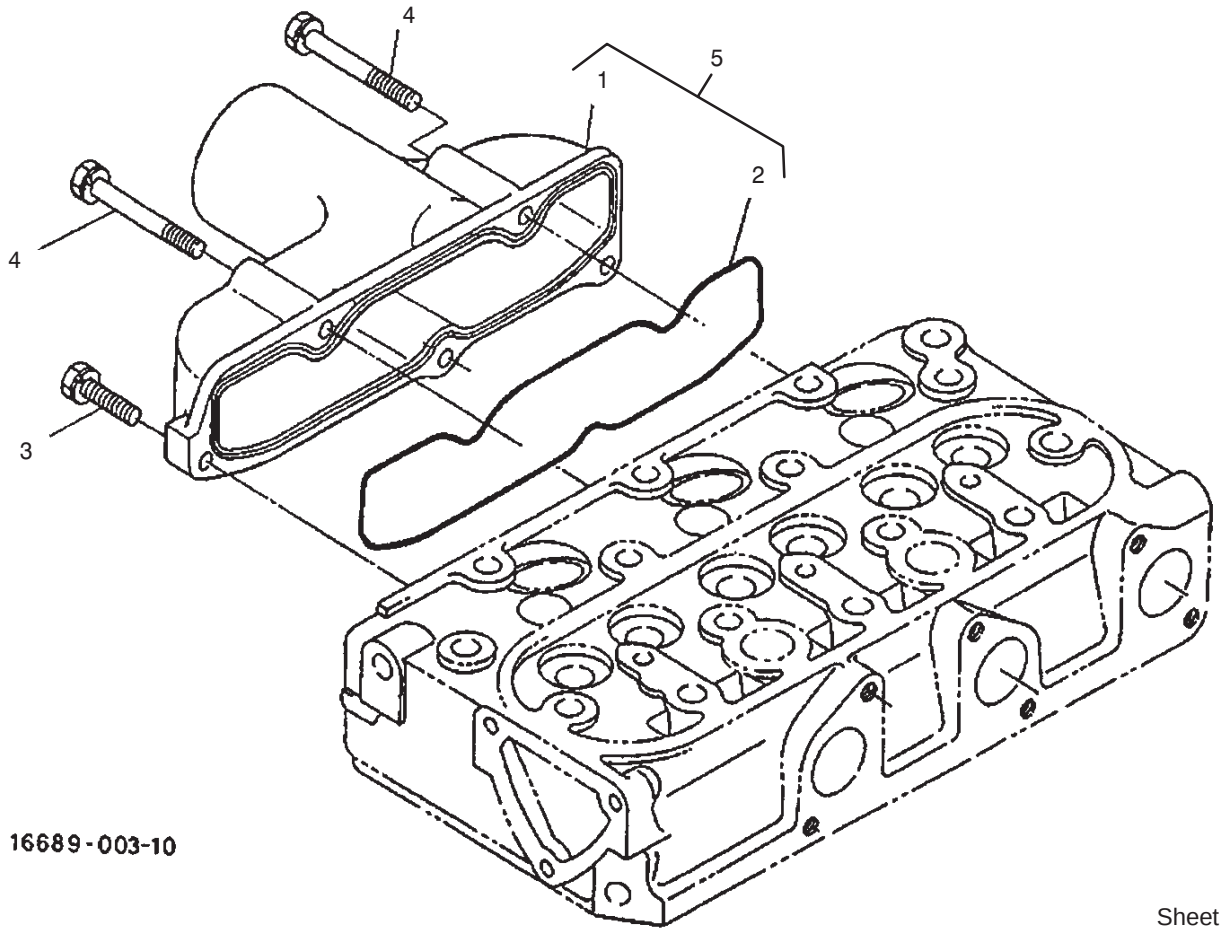



Sheet No.:29

# Valve and Rocker Arm Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–1821 | 3 | Valve–Inlet |
| 2 | 100–1822 | 3 | Valve–Exhaust |
| 3 | 100–1823 | 6 | Spring–Valve |
| 4 | 100–1825 | 6 | Retainer–Valve, Sp. |
| 5 | 100–1826 | 6 | Collet–Spring, Valve |
| 6 | 100–2155 | 6 | Cap–Valve |
| 7 | 100–1797 | 6 | Seal–Stem, Valve |
| 8 | 100–2237 | 1 | Shaft–Arm, Rocker |
| 9 | 100–2044 | 2 | Washer |
| 10 | 100–1927 | 2 | Washer–Plain |
| 11 | 100–1762 | 2 | Bolt |
| 12 | 100–1886 | 3 | Bracket–Arm, Rocker |
| 13 | 100–1829 | 3 | Stud |
| 14 | 98–7572 | 3 | Nut |
| 15 | 98–7648 | 3 | Washer–Plain |
| 16 | 98–9367 | 3 | Washer–Spring |
| 17 | 98–7602 | 1 | Pin–Spring |
| 18 | 100–1828 | 2 | Spring–Arm, Rocker |
| 19 | 100–1884 | 6 | Rocker Arm ASM |
| 20 | 100–1885 | 6 | Screw–Adjusting |
| 21 | 100–1827 | 6 | Nut |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

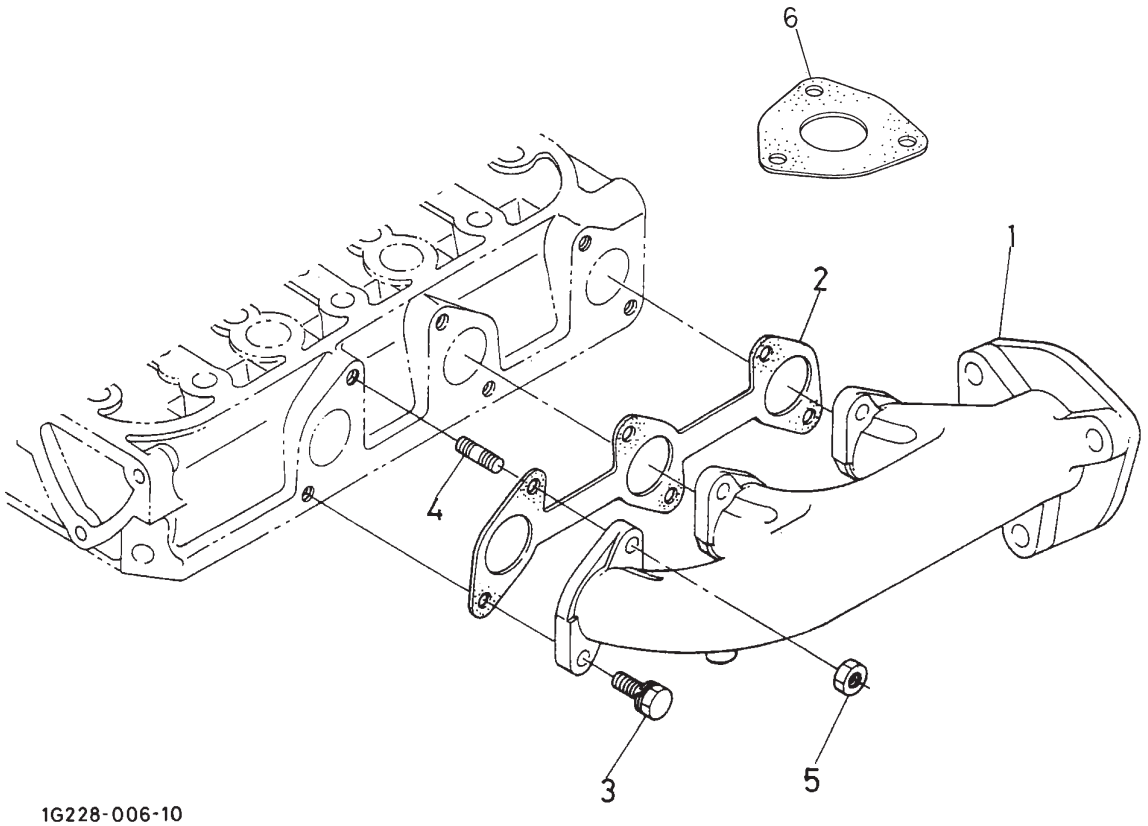



Sheet No.:30

# Inlet Manifold Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2235 | 1 | Manifold–Inlet |
| 2 | 100–1937 | 1 | Gasket–In–Manifold |
| 3 | 98–7605 | 2 | Bolt |
| 4 | 100–1765 | 3 | Bolt |
| 5 | 100–2236 | 1 | Inlet Manifold ASM |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|

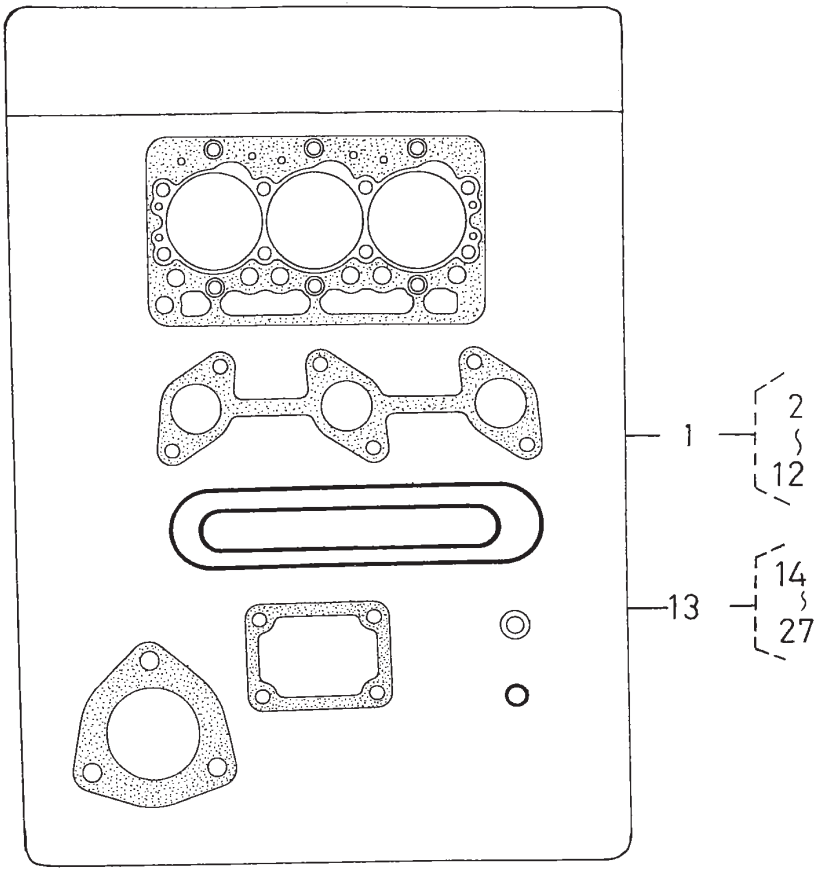



Sheet No.:31

# Exhaust Manifold Assembly

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2244 | 1 | Manifold–Exhaust |
| 2 | 100–1957 | 1 | Gasket |
| 3 | 100–1775 | 3 | Bolt–Ubs |
| 4 | 100–2202 | 3 | Stud |
| 5 | 100–1778 | 3 | Nut–Ubs |
| 6 | 100–2238 | 1 | Gasket–Muffler |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|




19449-018-10

Sheet No.:32

# Gasket Kit

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 100–2176 | 1 | Kit–Gasket, Upper |
| 2 | 98–7509 | 1 | O–Ring |
| 3 | 100–2043 | 1 | Gasket–Head, Cylinder |
| 4 | 100–1937 | 1 | Gasket–In–Manifold |
| 5 | 100–1957 | 1 | Gasket |
| 6 | 100–1797 | 6 | Seal–Stem, Valve |
| 7 | 100–2030 | 1 | Gasket–Cover, Head |
| 8 | 98–7654 | 3 | Gasket |
| 9 | 99–3446 | 1 | O–Ring |
| 10 | 100–1919 | 1 | Gasket–Flange, Water |
| 11 | 100–2157 | 1 | Gasket–Thermostat |
| 12 | 100–2238 | 1 | Gasket–Muffler |
| 13 | 100–2174 | 1 | Kit–Gasket, Lower |
| 14 | 100–1976 | 1 | Gasket–Pump, Water |
| 15 | 100–1954 | 1 | Gasket–Case, Gear |
| 16 | 100–2206 | 3 | O–Ring |
| 17 | 100–1929 | 1 | Gasket–Case, Bearing |
| 18 | 100–1876 | 1 | Gasket–Case, Bearing |
| 19 | 100–2209 | 1 | O–Ring |
| 20 | 100–2205 | 1 | O–Ring |
| 21 | 100–2003 | 1 | Gasket–Pump, Oil |
| 22 | 98–9636 | 1 | Gasket–Pump, Fuel |
| 23 | 100–2061 | 1 | Gasket–Gearcase, H/M |
| 24 | 100–1914 | 1 | Gasket |

| Ref. No. | Part No. | Qty. | Description |
|---|---|---|---|
| 25 | 98–7428 | 2 | Gasket |
| 26 | 100–2208 | 1 | O–Ring |
| 27 | 100–2207 | 1 | O–Ring |

# Maintenance Record

| Date | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |


TORO®