



PARTS LIST FOR  
***HSP-2503-0MMS***  
***HSP-2503-0MMH***

|                            |                              |
|----------------------------|------------------------------|
| HONDA/SUBARU OIL GRADE:    | SAE 10W-30                   |
| HONDA/SUBARU OIL CAPACITY: | 20 oz.                       |
| PUMP OIL GRADE:            | Mi-T-M PUMP OIL AW-4085-0016 |
| PUMP OIL CAPACITY:         | 16 oz.                       |
| FUEL NOZZLE:               | 1.25 60°B DELAVAN            |
| BTU INPUT:                 | 210,000 / HOUR               |
| PRESSURE NOZZLE SIZE:      | 3.0                          |

This Parts Listing has been compiled for your benefit. You can be assured your hot water pressure washer was constructed and designed with quality and performance in mind. Each component has been rigorously tested to insure the highest level of quality.

The contents of this Parts Listing are based on the latest product information available at the time of publication. The manufacturer reserves the right to make changes in price, color, materials, equipment, specifications or models at any time without notice.

## WARNING

THIS IS A PROFESSIONAL HIGH PRESSURE, HOT WATER PRESSURE WASHER. CAUTION SHOULD BE OBSERVED WHEN USING OR REPAIRING THIS UNIT! READ AND FOLLOW THE SAFETY WARNINGS LISTED BELOW BEFORE ATTEMPTING ANY REPAIRS ON THIS PRESSURE WASHER!

## SAFETY WARNINGS

1. NEVER alter or modify the equipment. Be sure any accessory items and system components being used will withstand the pressure developed. Use only genuine manufacturer parts for repair of your pressure washer. Failure to do so can cause hazardous operating conditions and will VOID warranty.
2. NEVER make adjustments on machinery while the unit is connected to the engine without first removing the ignition cable from the spark plug. Turning over the machinery by hand during adjustment or cleaning might start the engine and machinery with it, causing serious injury to the operator.
3. Know how to stop and bleed pressures quickly. Be thoroughly familiar with controls.
4. Before servicing the unit, turn unit off, relieve the water pressure and allow the unit to cool down. Do not make repairs while the unit is running. Service in a clean, dry, flat area. Block the wheels to prevent the unit from moving. Be especially careful to properly dispose of any flammable materials.
5. After testing the machine, DO NOT leave the pressurized unit unattended. Shut off the unit and release trapped pressure before leaving.

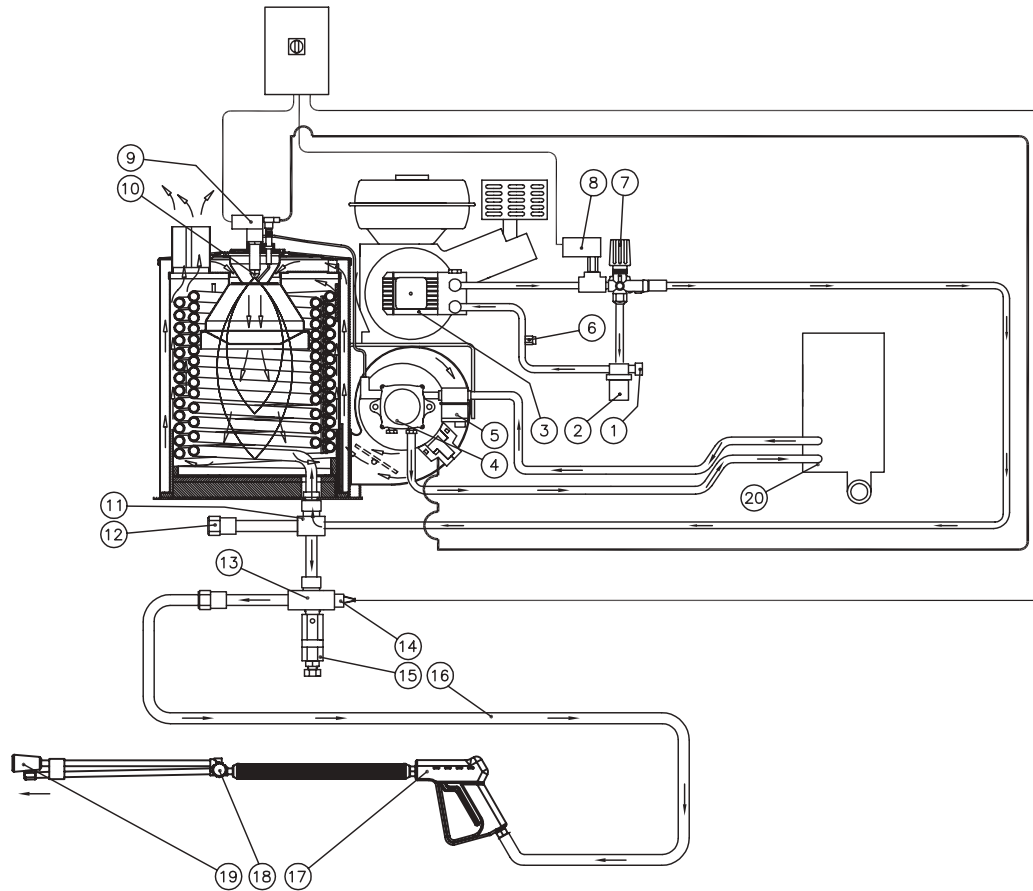
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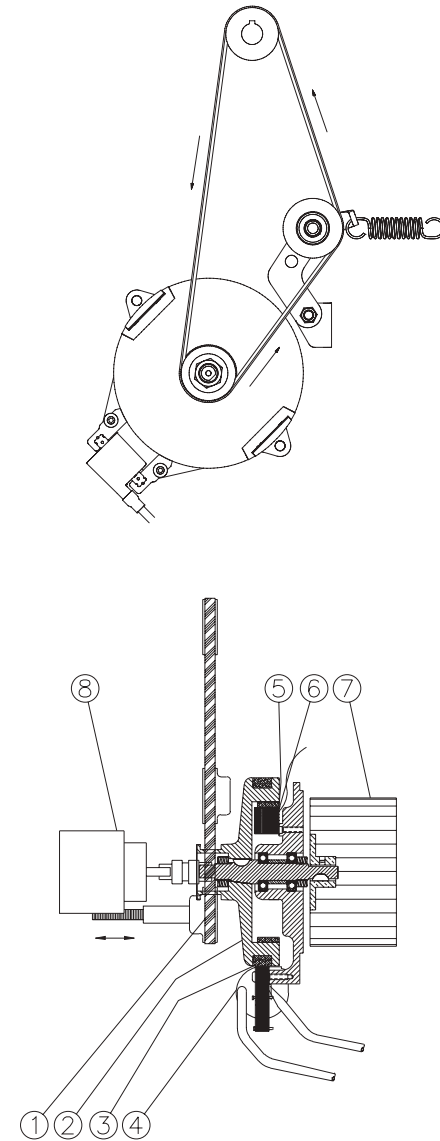
## SPECIFICATIONS

| MODEL NUMBER                          | HSP-2503-0MMH                                                              | HSP-2503-0MMS                              |
|---------------------------------------|----------------------------------------------------------------------------|--------------------------------------------|
| Operating Pressure (PSI/Bar):         | 2500/ 172 (+/- 5%)                                                         |                                            |
| Water Volume (GPM/lpm):               | 2.3/ 8.7 (+/- 5%)                                                          |                                            |
| Outlet Water Temperature (F/C)        | 130°F / 54°C (+/- 20°F) rise above inlet ambient (210°F / 99°C maximum)    |                                            |
| Engine:                               | Honda                                                                      | Subaru                                     |
| Model                                 | GX200                                                                      | EX21                                       |
| Engine Type                           | Four Stroke, Overhead Valve, Single Cylinder                               | Four Stroke, Overhead Cam, Single Cylinder |
| Oil Type                              | SAE 10W-30                                                                 |                                            |
| Oil Capacity (oz. / liter)            | 20/6                                                                       |                                            |
| Low Oil Protection                    | Oil Alert                                                                  | Low Oil Shutdown                           |
| Fuel Type                             | Unleaded Gasoline 86 Octane Minimum                                        |                                            |
| Fuel Capacity (Gal./liters)           | .95/3.6                                                                    |                                            |
| Starting                              | Recoil Rope                                                                |                                            |
| Maximum No Load RPM                   | 3600 (+/- 100)                                                             |                                            |
| High Pressure Pump:                   | Direct Driven, Oil Bath, Triplex Piston                                    |                                            |
| Oil Type                              | Mi-T-M Pump Oil #AW-4085-0016                                              |                                            |
| Oil Capacity (oz. / liter)            | 16.00 / 0.47                                                               |                                            |
| Plungers                              | Ceramic                                                                    |                                            |
| Manifold                              | Forged Brass                                                               |                                            |
| Valves                                | Stainless Steel                                                            |                                            |
| Unloader                              | Preset                                                                     |                                            |
| Inlet Water Strainer                  | Removable Clear Bowl for Inspection and cleaning of Stainless Steel Screen |                                            |
| Heat Dump Valve                       | Relieves heated water during unloader bypass stage                         |                                            |
| Burner Fuel System:                   |                                                                            |                                            |
| Fuel Type                             | No. 1 or No. 2 Fuel Oil, Diesel or Kerosene                                |                                            |
| Fuel Capacity (Gal./liters)           | 4.46 / 16.9                                                                |                                            |
| Fuel Filter/ Water Separator          | Spin On (10 Micron) Filter / E-Z Water Drain                               |                                            |
| Fuel Pump                             | Two Line, Single Stage                                                     |                                            |
| Fuel Pressure (PSI / BAR)             | 145 / 10                                                                   |                                            |
| Fuel Nozzle                           | 1.25 60° B Delavan                                                         |                                            |
| Fuel Consumption (GPH / LPH)          | 1.51 / 5.7 Cont. Burner                                                    |                                            |
| Electro Magnetic Firing (EMF) System: | Belt Driven (Patent # 5,954,494)                                           |                                            |
| Ignition                              | Transistorized Magneto                                                     |                                            |
| Control Voltage                       | 12 Volt DC                                                                 |                                            |
| Blower                                | Forced Air                                                                 |                                            |
| Heat Exchanger:                       | Vertical, Top Fired, Dual Spiral Coil                                      |                                            |
| BTU Input                             | 210,000                                                                    |                                            |
| Efficiency                            | 80-83% with #2 Fuel Oil / Diesel                                           |                                            |
| Smoke Density                         | 0-3 per ASTM D2156                                                         |                                            |
| Controls:                             |                                                                            |                                            |
| On/ Off Switch                        | Industrial grade rocker switch                                             |                                            |
| Pressure Switch                       | Shuts off burner fuel supply upon trigger release                          |                                            |
| High Limit Switch                     | Shuts off burner fuel supply when outlet water temp. exceeds 210°F / 99°C  |                                            |
| Fuel Solenoid:                        | 12 Volt                                                                    |                                            |
| Safety Relief:                        | Relieves excess system pressure                                            |                                            |
| Unit Net Weight (Lbs/Kg)              | 295 / 131.8                                                                |                                            |
| Unit Shipping Weight (Lbs/Kg)         | 411 / 186.4                                                                |                                            |
| Unit Net Dimensions (In/Cm)           | 43L x 29.5W x 36.5H / 109.5L x 75W x 93H                                   |                                            |
| Unit Shipping Dimensions (In/Cm)      | 46.5L x 31.5W x 48.5H / 118L x 80W x 123H                                  |                                            |

## FLOW CHART



## EMF SYSTEM



## GENERAL THEORY OF OPERATION

**WATER FLOW:** Connect a pressurized water source to the INLET GARDEN HOSE CONNECTION (1) and turn on the water supply. The water will flow through a WATER STRAINER (2) which has a clear inspection bowl.

The water then travels into the TRIPLEX HIGH PRESSURE PUMP (3) which has an UNLOADER (7) that bypasses the water when the trigger gun is closed. To protect the pump from heated water during this bypass stage, a HEAT DUMP VALVE (6) will open at 140°F/60°C allowing the heated water to escape. The Heat Dump Valve automatically resets when the water cools. The PRESSURE SWITCH (8) controls the fuel supply to the burner.

From there, the water may be allowed to flow out of the DRAIN PLUG (12) or through the HEAT EXCHANGER INLET (11) where it is heated when the burner is on. As the water exits the HEAT EXCHANGER OUTLET (13), it enters a safety system which protects the operator from danger. The safety system contains a HIGH TEMPERATURE LIMIT SWITCH (14) which senses the water temperature and shuts off the fuel supply to the burner if it gets too hot. If the unloader fails to bypass the water or the burner remains on when the trigger gun is closed, the SAFETY RELIEF (15) will relieve and allow water to exit safely.

The heated water then flows through the HIGH PRESSURE HOSE (16) and to the TRIGGER GUN ASSEMBLY (17) which allows the operator to control the water spray. When the trigger gun is open, the water flows through the ADJUSTABLE PRESSURE DUAL LANCE (18) and exits the NOZZLE (19).

**FUEL FLOW:** The Fuel Pump draws fuel from the FUEL TANK (20) through a replaceable FUEL FILTER /WATER SEPARATOR (5) and into the FUEL PUMP (4). Fuel exits the fuel pump, into a FUEL SOLENOID VALVE (9) which controls fuel flow to the FUEL NOZZLE (10) where it ignites and burns in the heat exchanger.

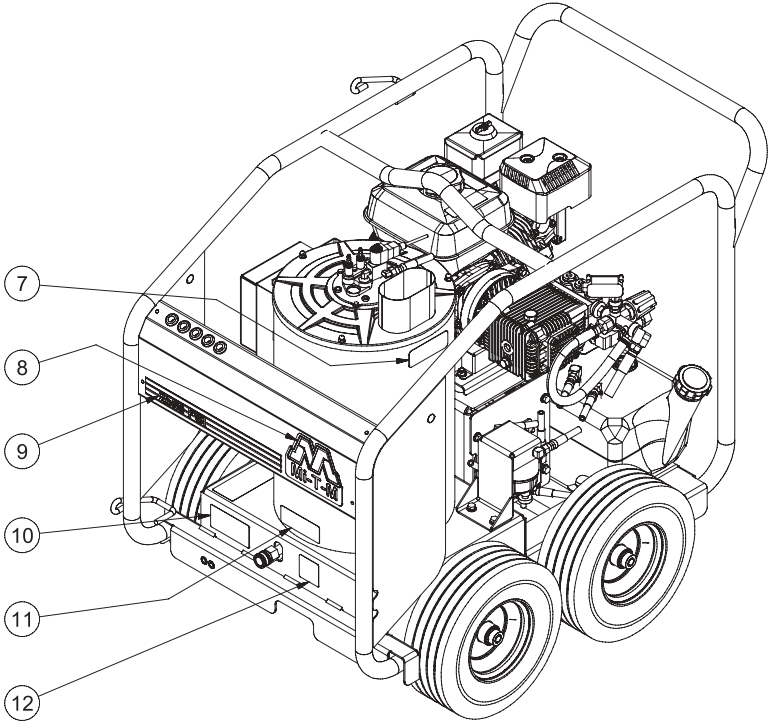
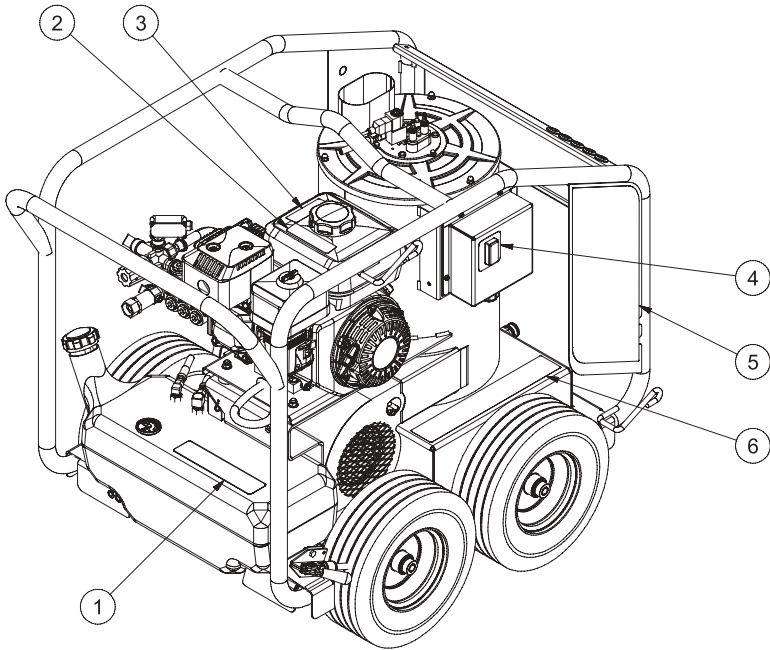
**EMF SYSTEM:** The patented Electro Magnetic Firing (EMF) System is an integrated system which gives all the requirements for combustion.

The BELT (1) from the power source turns the HUB (2) which has two EXTERIOR MAGNETS (3) attached. As these magnets spin past the IGNITION MODULE (4), a magnetic flux is created from which the ignition module produces a high voltage. This voltage arcs across the electrodes giving the spark that is needed for ignition.

This hub has an INTERNALLY MOUNTED MAGNET (5) which spins past a STATOR (6) that produces the voltage that controls the fuel supply to the heat exchanger. In addition to this, the hub also spins the BLOWER FAN (7) that forces the air into and through the heat exchanger.

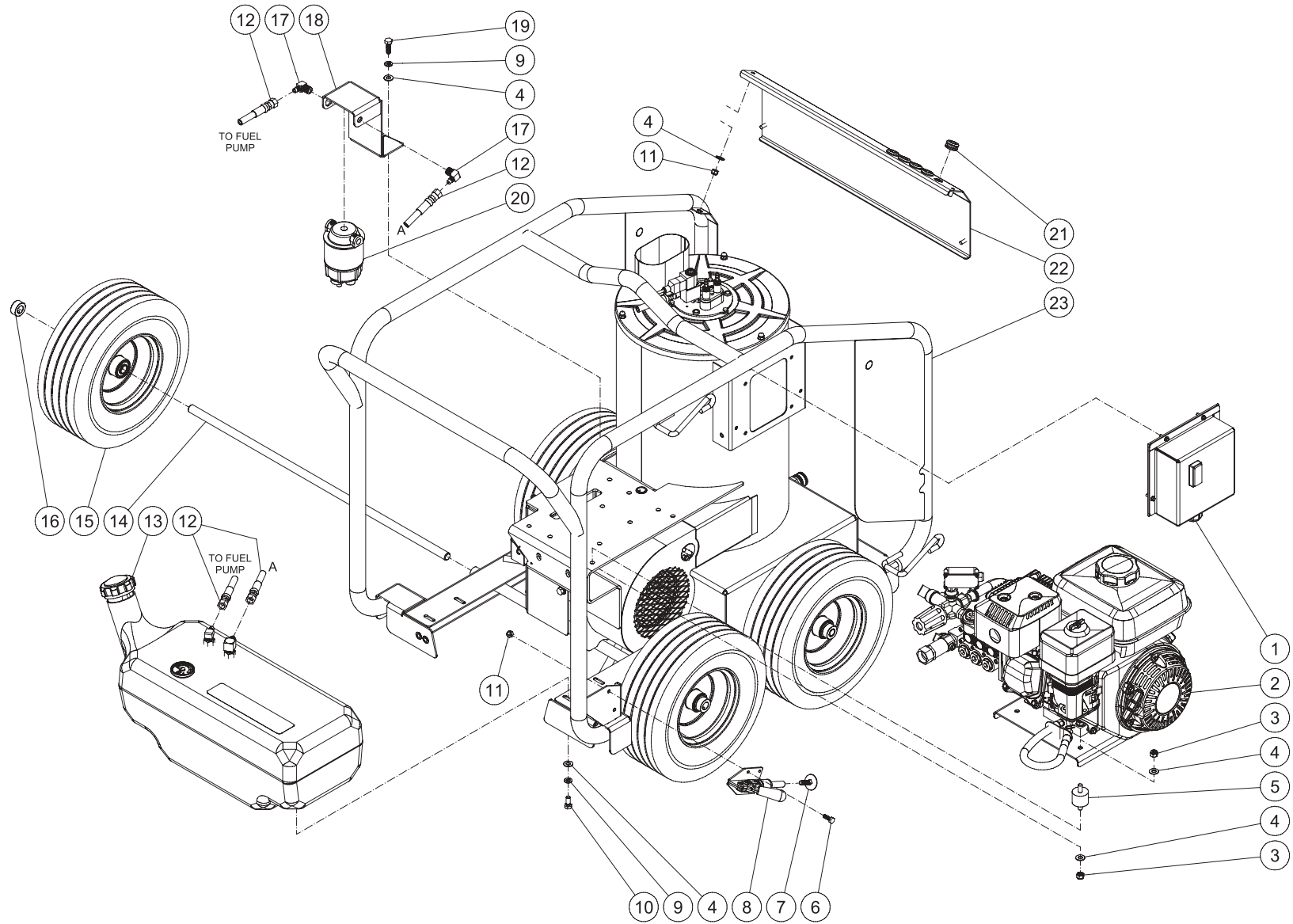
The FUEL PUMP (8) is also connected to the hub by means of a flexible coupler.

DECAL PLACEMENT



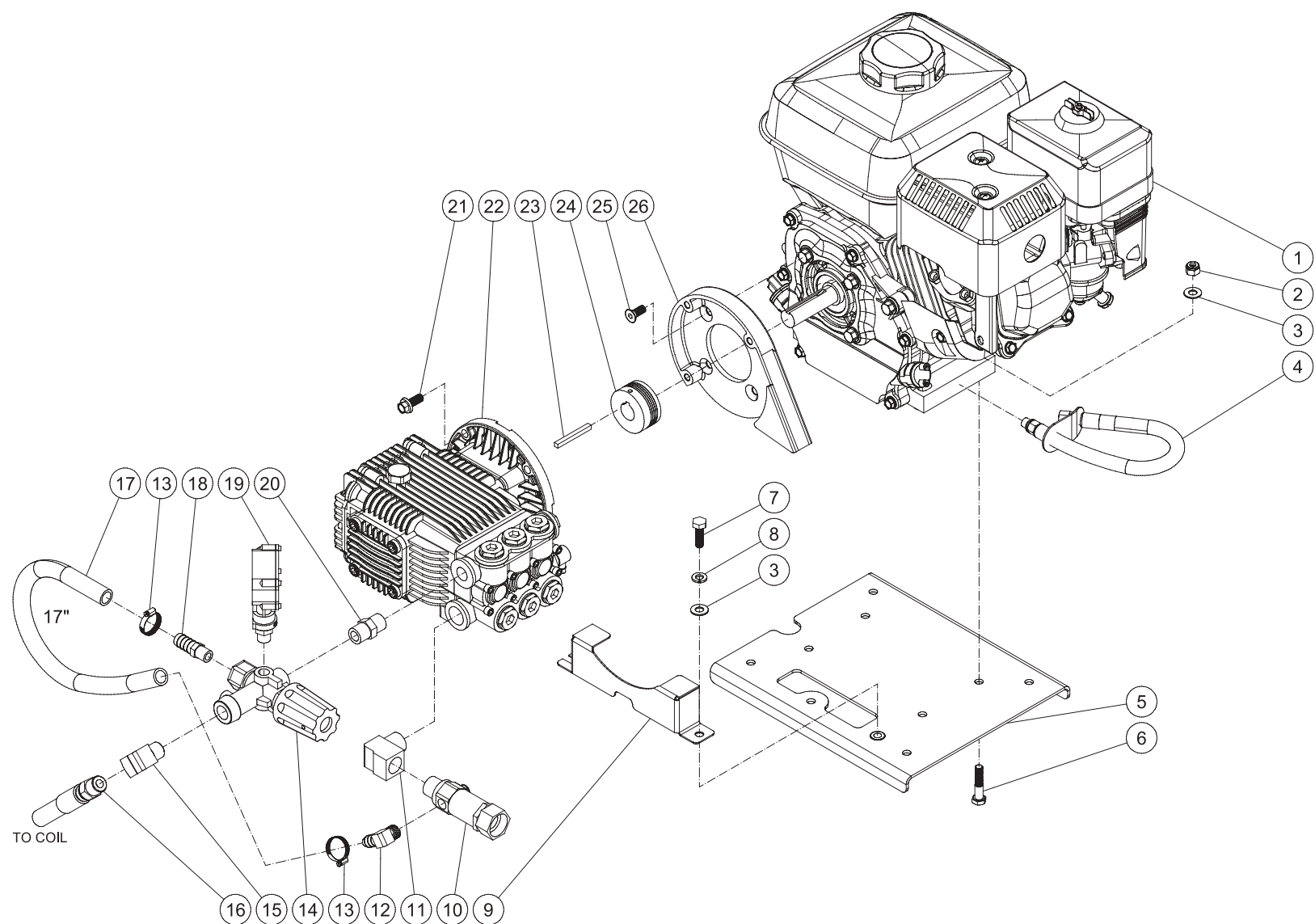
| HSP SMALL DECAL PLACEMENT 011713 CH |                                                  |          |     |
|-------------------------------------|--------------------------------------------------|----------|-----|
| DECAL PLACEMENT                     |                                                  |          |     |
| ITEM                                | DESCRIPTION                                      | Mi-T-M # | QTY |
| 1                                   | DECAL - CAUTION: RISK OF FIRE (SEE 71-0009)      | N/A      | 1   |
| 2                                   | DECAL - RISK OF BURNS (SEE 71-0009)              | N/A      | 1   |
| 3                                   | DECAL - RISK OF FIRE (SEE 71-0009)               | N/A      | 1   |
| 4                                   | DECAL - BURNER ON/OFF (SEE 71-0009)              | N/A      | 1   |
| 5                                   | DECAL - OPERATIONS (SEE 71-0009)                 | N/A      | 1   |
| 6                                   | DECAL - CAUTION: RISK OF INJURY (SEE 71-0009)    | N/A      | 1   |
| 7                                   | DECAL - HOT SURFACES (SEE 71-0009)               | N/A      | 1   |
| 8                                   | DECAL - Mi-T-M                                   | 34-2169  | 1   |
| 9                                   | DECAL - 14" STRIPE                               | 34-2567  | 1   |
| 10                                  | DECAL- SILVER STICKER                            | N/A      | 1   |
| 11                                  | DECAL - WARNING: RISK OF EXPLOSION (SEE 71-0009) | N/A      | 1   |
| 12                                  | DECAL - COIL DRAIN (SEE 71-0009)                 | N/A      | 1   |
| -                                   | DECAL SET                                        | 71-0009  | 1   |

# FRAME ASSEMBLY



| HSP SMALL UNIT ASSEMBLY 020413 CH |                                        |            |     |
|-----------------------------------|----------------------------------------|------------|-----|
| UNIT ASSEMBLY                     |                                        |            |     |
| ITEM                              | DESCRIPTION                            | Mi-T-M #   | QTY |
| 1                                 | HSP SMALL ELECTRIC BOX ASSY            | N/A        | 1   |
| 2                                 | ISOLATION PLATE/PUMP PLUMBING ASSEMBLY | N/A        | 1   |
| 3                                 | LOCKNUT                                | 30-0157    | 10  |
| 4                                 | WASHER                                 | 28-0003    | 20  |
| 5                                 | ISOLATOR                               | 14-0097    | 5   |
| 6                                 | BOLT                                   | 27-0015    | 2   |
| 7                                 | BOLT                                   | 27-9550    | 1   |
| 8                                 | PUSH/PULL TOGGLE CLAMP                 | 33-0400    | 1   |
| 9                                 | LOCKWASHER                             | 29-0007    | 6   |
| 10                                | BOLT                                   | 27-0066    | 4   |
| 11                                | LOCKNUT                                | 30-0155    | 6   |
| 12                                | FUEL HOSE                              | 15-0147    | 2   |
| 13                                | FUEL TANK ASSEMBLY                     | N/A        | 1   |
| 14                                | AXLE                                   | 20-1315    | 2   |
| 15                                | WHEEL                                  | 14-0127    | 4   |
| 16                                | COLLAR                                 | 33-0351    | 4   |
| 17                                | ELBOW                                  | 23-0237    | 2   |
| 18                                | FUEL FILTER BRACKET                    | 20-1300A01 | 1   |
| 19                                | BOLT                                   | 27-0067    | 2   |
| 20                                | FUEL FILTER / WATER SEPERATOR          | 19-0070    | 1   |
| 21                                | GROMMET                                | 33-0001    | 5   |
| 22                                | FRONT PANEL                            | 20-1303A01 | 1   |
| 23                                | HEAT EXCHANGER/ EMF SYSTEM ASSEMBLY    | N/A        | 1   |

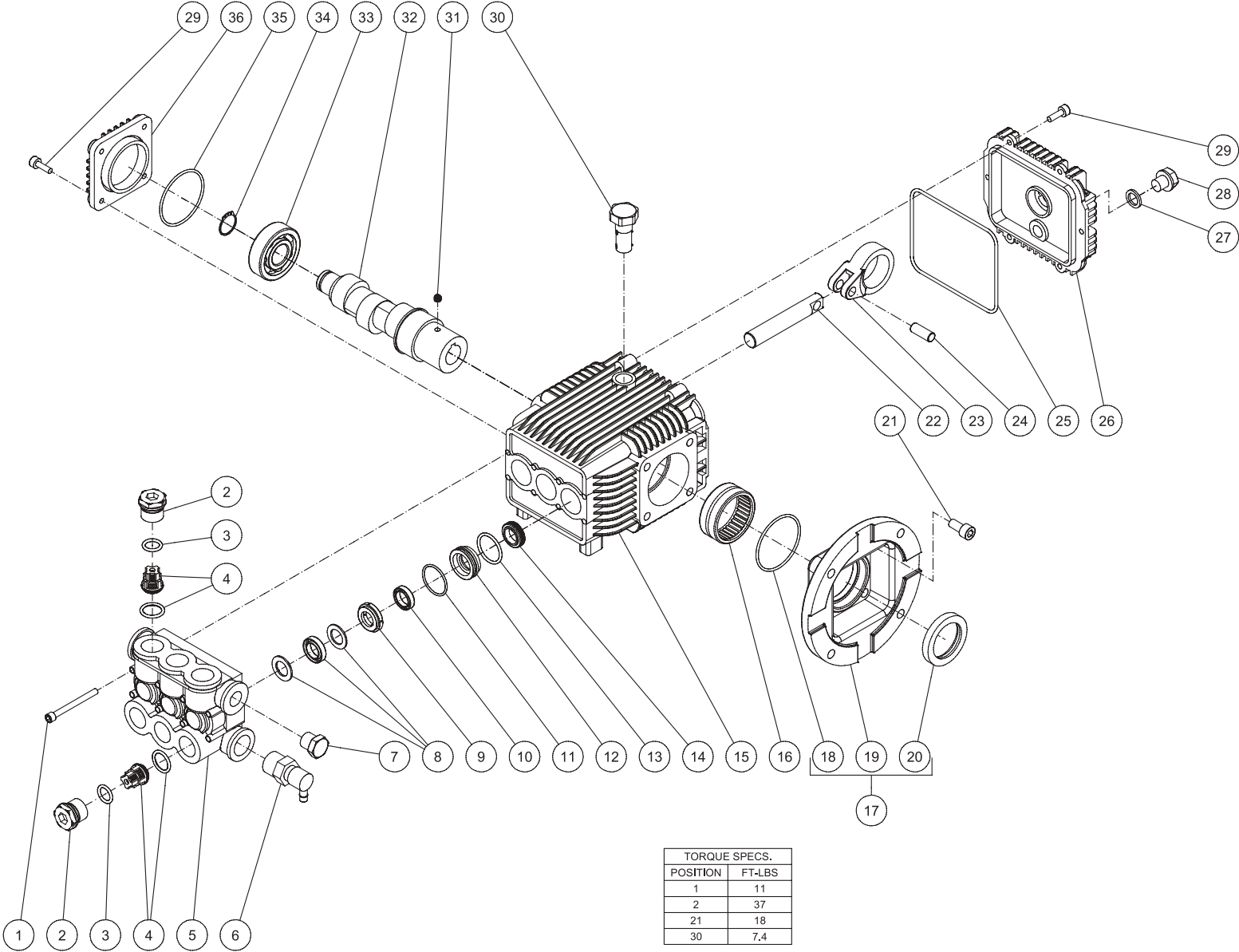
# ENGINE/PUMP ASSEMBLY



HSP SMALL ISO PLATE\_PUMP PLUMBING MITM 020413 CH

| HSP SMALL ISO PLATE_PUMP PULUMBING_MITM 020413 CH |                           |            |     |
|---------------------------------------------------|---------------------------|------------|-----|
| ISOLATION PLATE/PUMP PLUMBING                     |                           |            |     |
| ITEM                                              | DESCRIPTION               | Mi-T-M #   | QTY |
| 1                                                 | ENGINE - HONDA GX200      | 1-0088     | 1   |
| -                                                 | ENGINE-SUBARU EX21        | 1-0133     | 1   |
| 2                                                 | LOCKNUT                   | 30-0157    | 4   |
| 3                                                 | WASHER                    | 28-0003    | 5   |
| 4                                                 | ENGINE OIL DRAIN          | 70-0357    | 1   |
| 5                                                 | ISOLATION PLATE           | 20-1324A01 | 1   |
| 6                                                 | BOLT                      | 27-0069    | 4   |
| 7                                                 | BOLT                      | 27-0067    | 1   |
| 8                                                 | LOCKWASHER                | 29-0007    | 1   |
| 9                                                 | BELTGUARD                 | 20-1299A01 | 1   |
| 10                                                | FILTER                    | 19-0207    | 1   |
| 11                                                | ELBOW                     | 23-0035    | 1   |
| 12                                                | ELBOW                     | 23-0119    | 1   |
| 13                                                | HOSE CLAMP                | 42-0011    | 2   |
| 14                                                | UNLOADER                  | 850-0252   | 1   |
| 15                                                | ELBOW                     | 23-0034    | 1   |
| 16                                                | HIGH PRESSURE HOSE        | 15-0174    | 1   |
| 17                                                | HOSE *(TWO FEET REQUIRED) | 15-0007    | 1   |
| 18                                                | HOSE BARB                 | 23-0120    | 1   |
| 19                                                | PRESSURE SWITCH           | 22-0243    | 1   |
| 20                                                | NIPPLE                    | 24-0010    | 1   |
| 21                                                | BOLT                      | 27-9524    | 3   |
| 22                                                | PUMP                      | 3-0385     | 1   |
| 23                                                | KEY                       | 43-0073    | 1   |
| 24                                                | SHEAVE                    | 10-0076    | 1   |
| 25                                                | BOLT                      | 27-0418    | 4   |
| 26                                                | ENGINE EMF FLANGE         | 38-0069    | 1   |
| *MUST ORDER IN ONE FOOT LENGTHS                   |                           |            |     |

HIGH PRESSURE PUMP (3-0385)

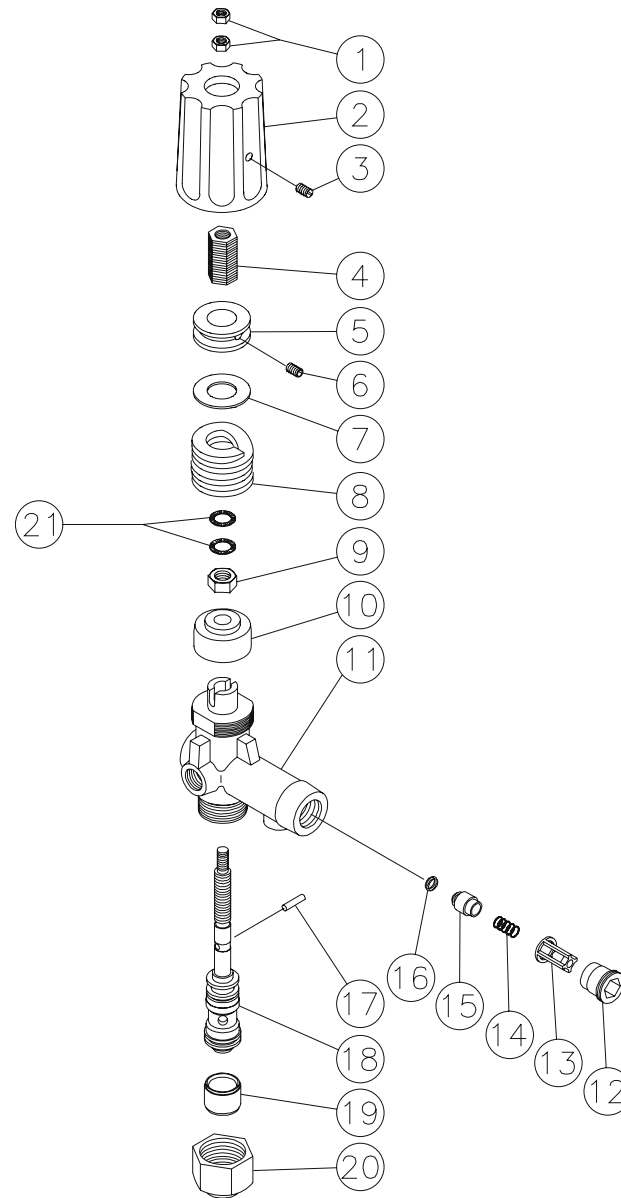


3-0385 011713 CH

| 3-0385 011713 CH |                                         |         |     |
|------------------|-----------------------------------------|---------|-----|
| PUMP ASSEMBLY    |                                         |         |     |
| ITEM             | DESCRIPTION                             | PART #  | QTY |
| 1                | BOLT                                    | 27-0898 | 8   |
| 2                | VALVE PLUG                              | 39-0231 | 6   |
| 3                | O-RING                                  | 25-0622 | 6   |
| 4                | VALVE ASSEMBLY                          | 70-0502 | 6   |
| 5                | MANIFOLD HEAD                           | 46-1503 | 1   |
| 6                | HEAT DUMP VALVE                         | 22-0414 | 1   |
| 7                | OUTLET PLUG                             | 39-0203 | 1   |
| 8                | HIGH PRESSURE PACKING (SEE KIT 70-0501) | SEE KIT | 3   |
| 9                | SEAL COMPACTION RING                    | 46-1311 | 3   |
| 10               | LOW PRESSURE SEAL (SEE KIT 70-0501)     | SEE KIT | 3   |
| 11               | O-RING (SEE KIT 70-0501)                | SEE KIT | 3   |
| 12               | RETAINER RING                           | 46-1312 | 3   |
| 13               | O-RING                                  | 25-0663 | 3   |
| 14               | OIL SEAL                                | 46-1313 | 3   |
| 15               | CRANKCASE                               | N/A     | 1   |
| 16               | NEEDLE BEARING                          | 48-0096 | 1   |
| 17               | FLANGE (INCLUDES 19-21)                 | 38-0067 | 1   |
| 18               | O-RING                                  | 25-0603 | 1   |
| 19               | FLANGE                                  | N/A     | 1   |
| 20               | OIL SEAL                                | 26-0320 | 1   |
| 21               | BOLT                                    | 27-8431 | 4   |
| 22               | PLUNGER GUIDE                           | 46-1504 | 3   |
| 23               | CONNECTING ROD                          | N/A     | 3   |
| 24               | PISTON                                  | 46-1505 | 3   |
| 25               | O-RING                                  | 25-0604 | 1   |
| 26               | CRANKCASE COVER                         | 46-1317 | 1   |
| 27               | GASKET                                  | 26-0322 | 1   |
| 28               | DRAIN PLUG                              | 39-0232 | 1   |
| 29               | BOLT                                    | 27-8401 | 10  |
| 30               | DIPSTICK W/ O-RING                      | 70-0503 | 1   |
| 31               | SET SCREW                               | 27-8886 | 1   |
| 32               | CRANKSHAFT                              | N/A     | 1   |
| 33               | BALL BEARING                            | 48-0063 | 1   |
| 34               | SNAP RING                               | 46-1506 | 1   |
| 35               | O-RING                                  | 25-0603 | 1   |
| 36               | CRANKSHAFT COVER                        | 46-1507 | 1   |

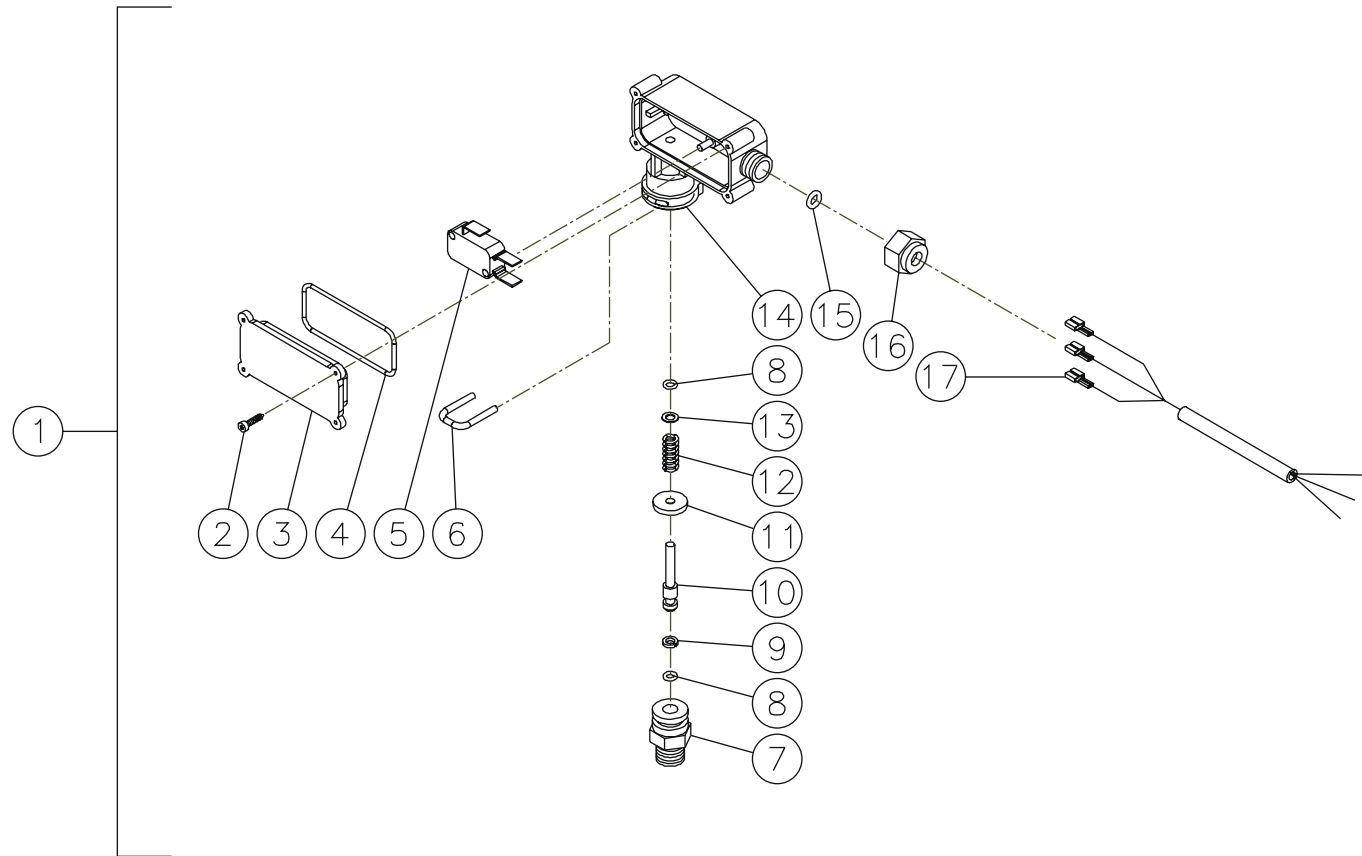
| REPLACEMENT KITS |                        |           |                 |                |
|------------------|------------------------|-----------|-----------------|----------------|
| MI-T-M KIT #     | DESCRIPTION            | ITEMS     | # OF ASSEMBLIES | # OF CYLINDERS |
| 70-0501          | KIT - PACKINGS         | 8, 10, 11 | 3, 3, 3         | 3              |
| 70-0502          | KIT - VALVES W/ O-RING | 4         | 6               | 3              |

# UNLOADER (850-0252)



| UNLOADER (850-0252) |                                         |          |      |
|---------------------|-----------------------------------------|----------|------|
| REF. #              | DESCRIPTION                             | PART #   | QTY. |
| 1                   | Hex Nut                                 | 8-0362   | 2    |
| 2                   | Cover                                   | 7-0098   | 1    |
| 3                   | Set Screw                               | 27-4280  | 1    |
| 4                   | Adjusting Insert- Brass                 | 8-0363   | 1    |
| 5                   | Adjustment Nut                          | 8-0364   | 1    |
| 6                   | Set Screw                               | 8-0365   | 1    |
| 7                   | Glide Ring                              | 8-0366   | 1    |
| 8                   | Spring                                  | 49-0104  | 1    |
| 9                   | Hex Nut                                 | 8-0367   | 1    |
| 10                  | Bushing                                 | 8-0368   | 1    |
| 11                  | Unloader Body                           | 8-0369   | 1    |
| 12                  | Retainer                                | 8-0269   | 1    |
| 13                  | Valve Housing                           | 8-0104   | 1    |
| 14                  | Spring                                  | 49-0023  | 1    |
| 15                  | Valve                                   | 8-0105   | 1    |
| 16                  | O-ring                                  | 25-0036  | 1    |
| 17                  | Cylinder Pin                            | 8-0372   | 1    |
| 18                  | Piston Repair Kit                       | 70-0243  | 1    |
| 19                  | Spacer                                  | 8-0371   | 1    |
| 20                  | Stop Nut                                | 8-0157   | 1    |
| 21                  | Washer                                  | 29-0154  | 2    |
|                     | Check Valve Repair Kit (Includes 13-16) | 70-0244  |      |
|                     | Unloader Complete                       | 850-0252 |      |

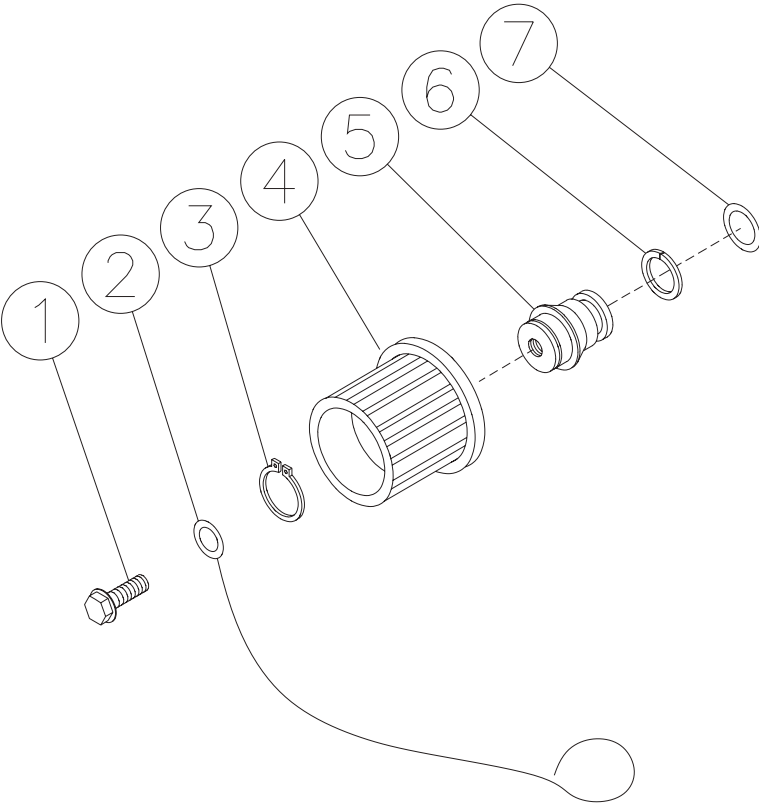
# PRESSURE SWITCH (22-0243)



22-0243-120799-BAR

| PRESSURE SWITCH (22-0243) |                                      |          |      |
|---------------------------|--------------------------------------|----------|------|
| REF. #                    | DESCRIPTION                          | PART #   | QTY. |
| 1                         | Pressure Switch                      | 22-0243  | 1    |
| 2                         | Screw                                | N/A      | 4    |
| 3                         | Cover                                | N/A      | 1    |
| 4                         | O-ring (See 70-0306)                 | N/A Sep. | 1    |
| 5                         | Micro Switch                         | N/A      | 1    |
| 6                         | Retainer Clip                        | N/A      | 1    |
| 7                         | Body                                 | N/A      | 1    |
| 8                         | O-ring (See 70-0306)                 | N/A Sep. | 2    |
| 9                         | Back-up Ring (See 70-0306)           | N/A Sep. | 1    |
| 10                        | Piston                               | N/A      | 1    |
| 11                        | Washer                               | N/A      | 1    |
| 12                        | Spring                               | 49-0145  | 1    |
| 13                        | Washer                               | N/A      | 1    |
| 14                        | Plastic Housing                      | N/A      | 1    |
| 15                        | O-ring (See 70-0306)                 | N/A Sep. | 1    |
| 16                        | Nut                                  | N/A      | 1    |
| 17                        | Wire Assembly                        | N/A      | 1    |
|                           | O-ring Repair Kit (Inc. 4, 8, 9, 15) | 70-0306  |      |

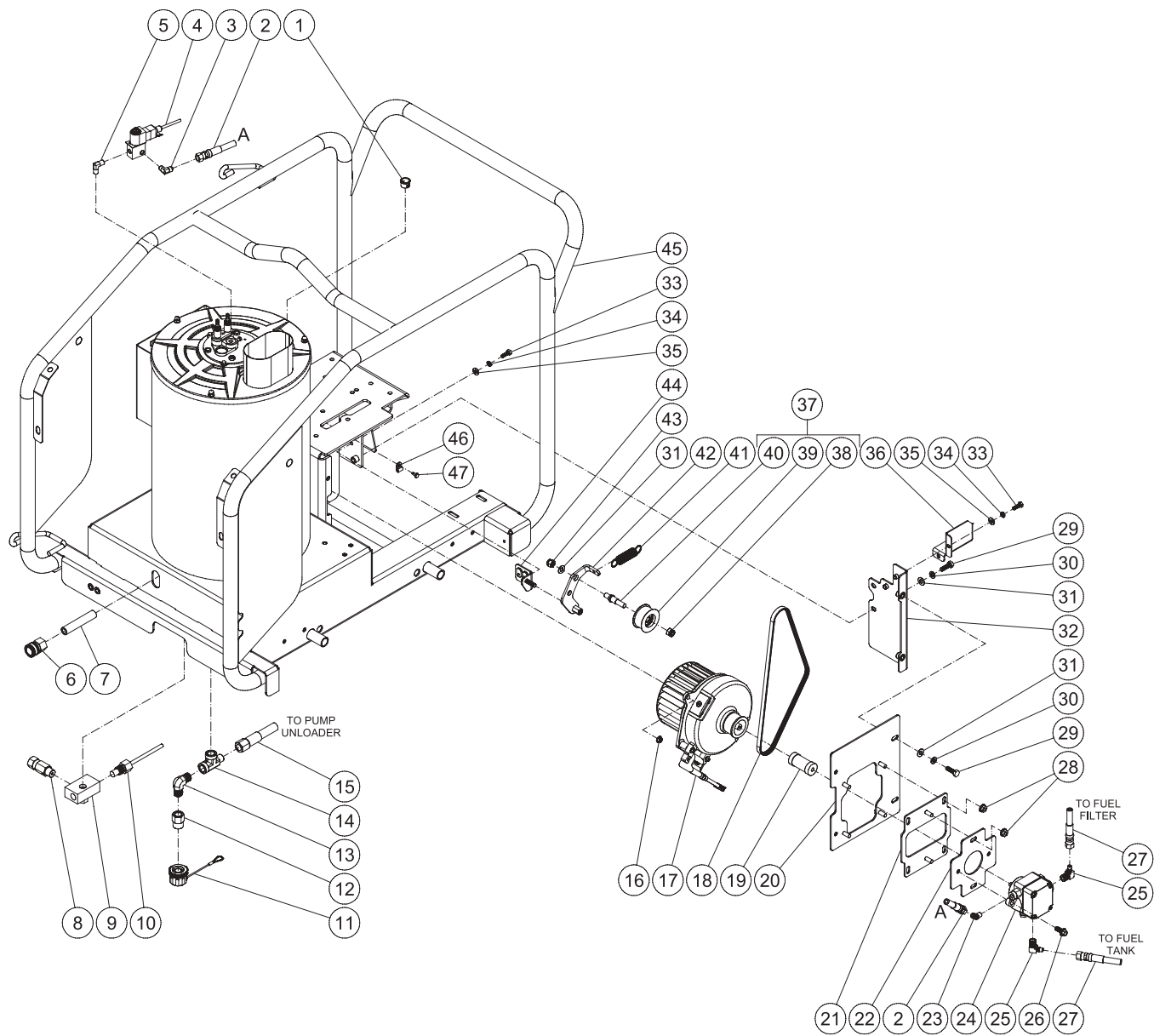
**COIL DRAIN PLUG (850-0218)**



850-0218-041597-BAR

| COIL DRAIN PLUG (850-0218) |                 |         |      |
|----------------------------|-----------------|---------|------|
| REF. #                     | DESCRIPTION     | PART #  | QTY. |
| 1                          | Bolt            | 27-9526 | 1    |
| 2                          | Retaining Cable | 33-0260 | 1    |
| 3                          | Snap Ring       | 33-0261 | 1    |
| 4                          | Hand Wheel      | 16-0239 | 1    |
| 5                          | Plug            | 24-0147 | 1    |
| 6                          | Back-up Ring    | 25-0424 | 1    |
| 7                          | O-ring          | 25-0423 | 1    |

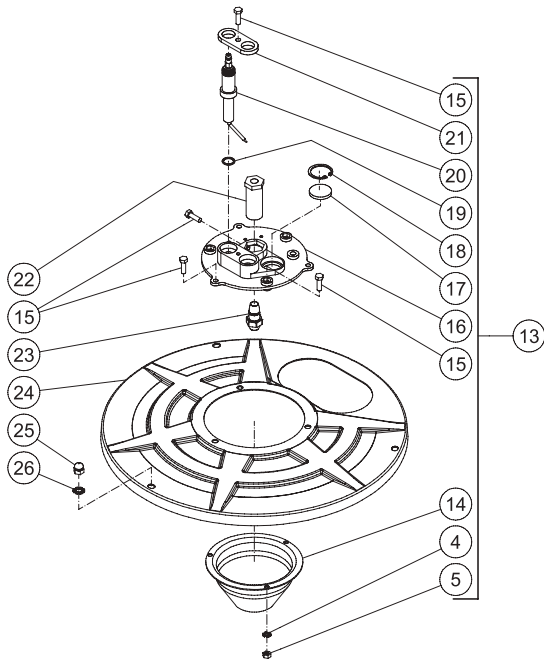
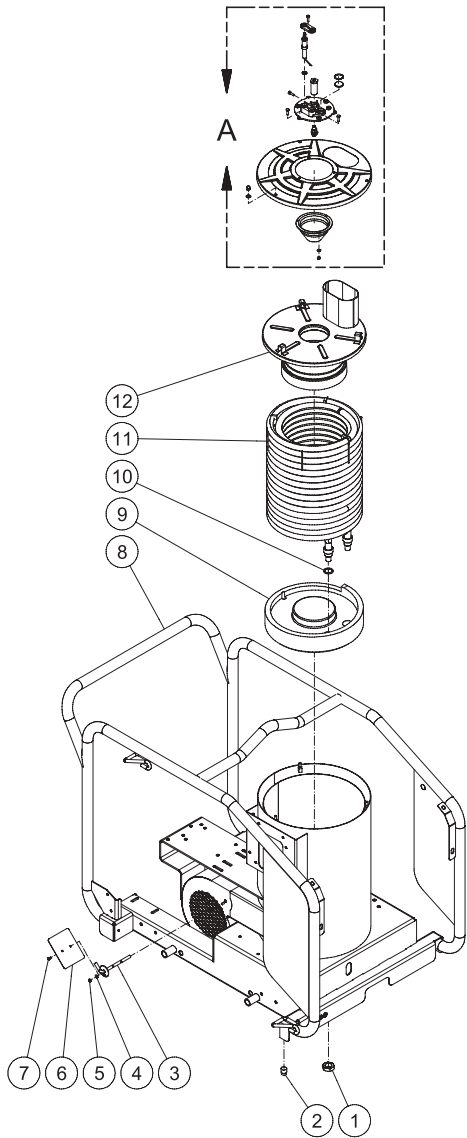
## HEAT EXCHANGER/EMF SYSTEM



## HEAT EXCHANGER/EMF ASSEMBLY

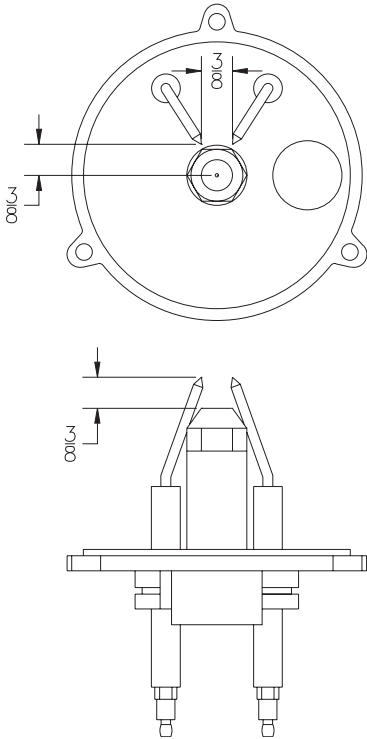
| ITEM | DESCRIPTION              | Mi-T-M #   | QTY |  | ITEM | DESCRIPTION            | Mi-T-M #   | QTY |
|------|--------------------------|------------|-----|--|------|------------------------|------------|-----|
| 1    | CORD BUSHING             | 32-0465    | 2   |  | 25   | ELBOW                  | 23-0237    | 2   |
| 2    | FUEL HOSE                | 15-0333    | 1   |  | 26   | BOLT                   | 27-9524    | 2   |
| 3    | ELBOW                    | 23-0287    | 1   |  | 27   | FUEL HOSE              | 15-0147    | 2   |
| 4    | FUEL SOLENOID            | 44-0098    | 1   |  | 28   | NUT                    | 30-3023    | 6   |
| 5    | ELBOW                    | 23-0249    | 1   |  | 29   | BOLT                   | 27-0067    | 6   |
| 6    | QC SOCKET                | 17-0004    | 1   |  | 30   | LOCKWASHER             | 29-0007    | 6   |
| 7    | PIPE NIPPLE              | 24-0165    | 1   |  | 31   | WASHER                 | 28-0003    | 7   |
| 8    | PRESSURE RELIEF VALVE    | 22-0272    | 1   |  | 32   | BELTGUARD SIDE         | 20-1295A01 | 1   |
| 9    | OUTLET CONNECTOR         | 24-0138    | 1   |  | 33   | BOLT                   | 27-0015    | 4   |
| 10   | HI LIMIT SWITCH          | 32-0798    | 1   |  | 34   | LOCKWASHER             | 29-0006    | 4   |
| 11   | DRAIN PLUG ASSEMBLY      | 850-0218   | 1   |  | 35   | WASHER                 | 28-0002    | 4   |
| 12   | ADAPTER                  | 23-0279    | 1   |  | 36   | SPRING GUARD           | 20-1327A01 | 1   |
| 13   | ELBOW                    | 24-0131    | 1   |  | 37   | SHEAVE/SHAFT ASSEMBLY  | 850-0166   | 1   |
| 14   | STREET TEE               | 23-0058    | 1   |  | 38   | LOCKNUT                | 30-0159    | 1   |
| 15   | HIGH PRESSURE HOSE       | 15-0174    | 1   |  | 39   | SHEAVE ASSEMBLY        | 850-0177   | 1   |
| 16   | NUT                      | 30-3022    | 2   |  | 40   | IDLER SHAFT            | 33-0212    | 1   |
| 17   | EMF ASSEMBLY             | 850-0405   | 1   |  | 41   | SPRING                 | 49-0169    | 1   |
| 18   | BELT                     | 11-0094    | 1   |  | 42   | IDLER ARM              | 20-1326A01 | 1   |
| 19   | COUPLING                 | 33-0225    | 1   |  | 43   | LOCKNUT                | 30-0159    | 1   |
| 20   | FUEL PUMP MOUNTING PLATE | 20-1296A01 | 1   |  | 44   | IDLER MOUNTING BRACKET | 20-1325A01 | 1   |
| 21   | PLATE/FUEL PUMP          | 20-1297A01 | 1   |  | 45   | BOILER ASSEMBLY        | N/A        | 1   |
| 22   | PLATE/FUEL PUMP          | 20-1298A01 | 1   |  | 46   | CLAMP                  | 32-0428    | 1   |
| 23   | ELBOW                    | 23-0288    | 1   |  | 47   | BOLT                   | 27-3062    | 1   |
| 24   | FUEL PUMP                | 3-0020     | 1   |  |      |                        |            |     |

BOILER ASSEMBLY



DETAIL A

ELECTRODE GAP SETTINGS

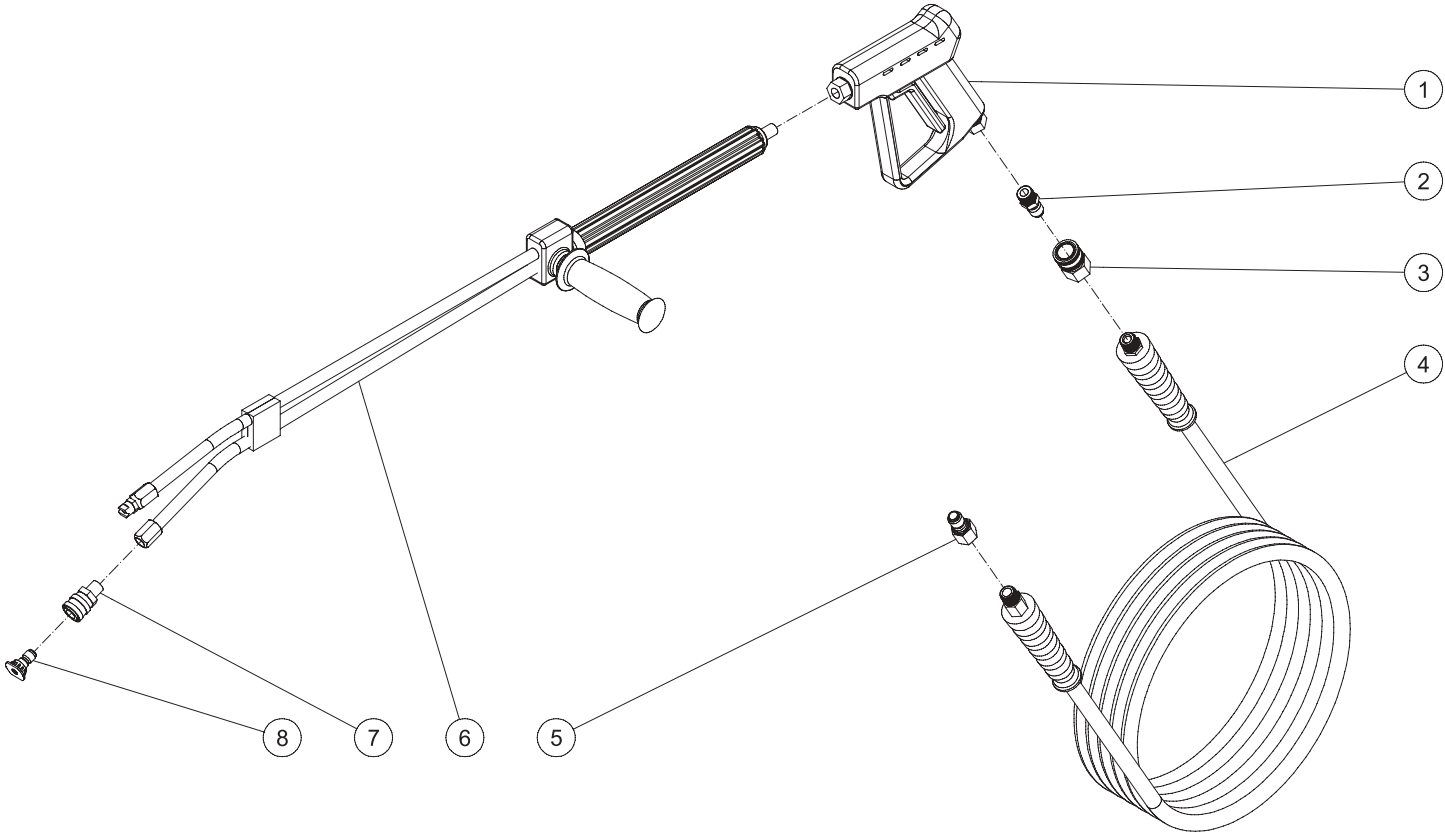


HSE HSP SMALL BOILER ASSY 110512 CH

HSP071-082698-BAR

| HSP SMALL BOILER ASSEMBLY 110512 CH |                                   |            |     |
|-------------------------------------|-----------------------------------|------------|-----|
| BOILER ASSEMBLY                     |                                   |            |     |
| ITEM                                | DESCRIPTION                       | Mi-T-M #   | QTY |
| 1                                   | NUT                               | 30-0121    | 2   |
| 2                                   | PLUG                              | 24-0034    | 1   |
| 3                                   | AIR DIVERTER STEM                 | 20-0377A01 | 1   |
| 4                                   | STAR WASHER                       | 28-1009    | 4   |
| 5                                   | NUT                               | 30-6001    | 4   |
| 6                                   | AIR DIVERTER                      | 20-0378A01 | 1   |
| 7                                   | BOLT                              | 27-8879    | 2   |
| 8                                   | FRAME                             | 5-0325A01  | 1   |
| 9                                   | INSULATION                        | 33-0267    | 1   |
| 10                                  | WASHER                            | 28-0521    | 2   |
| 11                                  | HEAT EXCHANGER COIL               | 66-0009    | 1   |
| 12                                  | EXHAUST CHIMNEY                   | 20-1264    | 1   |
| 13                                  | ELECTRODE ASSEMBLY (INC 5, 14-21) | 850-0411   | 1   |
| 14                                  | CONE                              | 20-0373    | 1   |
| 15                                  | BOLT                              | 27-8878    | 8   |
| 16                                  | ELECTRODE PLATE                   | 38-0065    | 1   |
| 17                                  | SIGHT GLASS                       | 33-0252    | 1   |
| 18                                  | SNAP RING                         | 33-0254    | 1   |
| 19                                  | WASHER                            | 28-0523    | 2   |
| 20                                  | ELECTRODE                         | 32-0987    | 2   |
| 21                                  | ELECTRODE BRACKET                 | 20-1094A01 | 1   |
| 22                                  | FUEL NOZZLE HOLDER                | 23-0292    | 1   |
| 23                                  | FUEL NOZZLE                       | 18-0310    | 1   |
| 24                                  | TOP PAN                           | 20-1263    | 1   |
| 25                                  | ACORN NUT                         | 30-6002    | 3   |
| 26                                  | LOCKWASHER                        | 28-1028    | 3   |

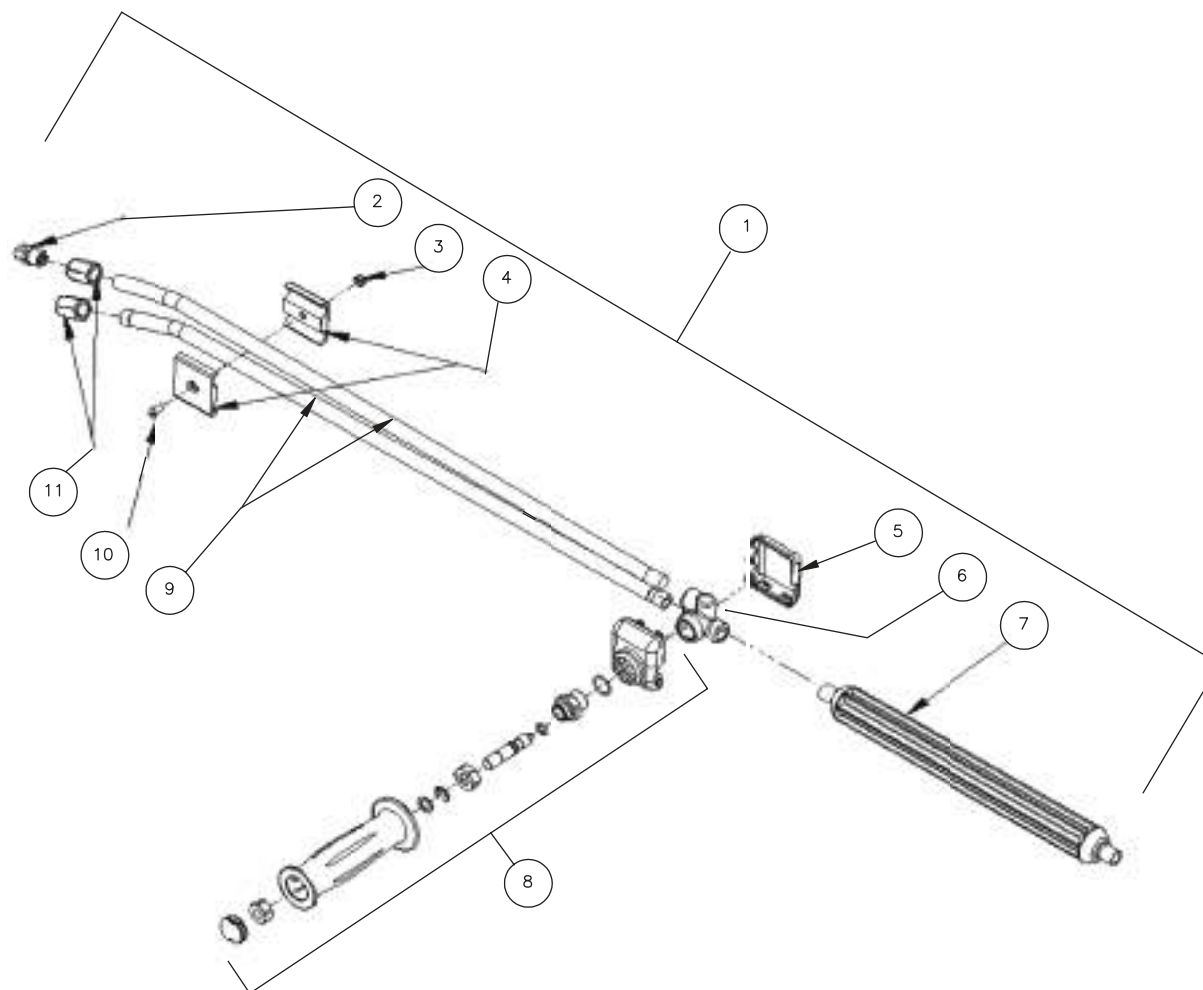
GUN WAND/HOSE ASSEMBLY



HSE HSP SMALL GUN/WAND HOSE ASSY 010212 CH

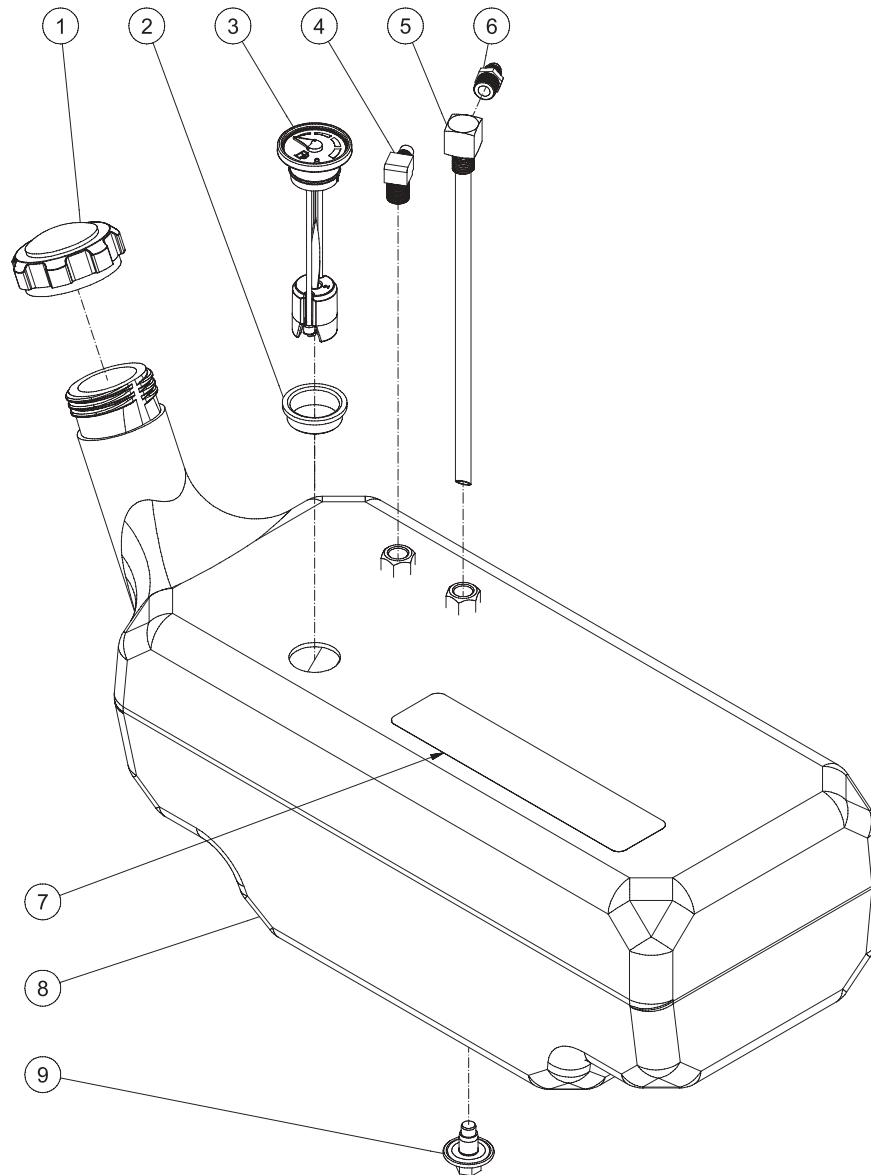
| HSP SMALL-GUN-WANT-HOSE ASSY 110512 CH |               |          |     |
|----------------------------------------|---------------|----------|-----|
| GUN / WAND / HOSE ASSEMBLY             |               |          |     |
| ITEM                                   | DESCRIPTION   | Mi-T-M # | QTY |
| 1                                      | GUN           | 16-0001  | 1   |
| 2                                      | QUICK CONNECT | 17-0005  | 1   |
| 3                                      | QC SOCKET     | 17-0004  | 1   |
| 4                                      | HOSE          | 15-0146  | 1   |
| 5                                      | QUICK CONNECT | 17-0006  | 1   |
| 6                                      | DUAL LANCE    | 16-0416  | 1   |
| 7                                      | QC SOCKET     | 17-0028  | 1   |
| 8                                      | NOZZLE 00030  | 18-0387  | 1   |
| -                                      | NOZZLE 15030  | 18-0388  | 1   |
| -                                      | NOZZLE 25030  | 18-0390  | 1   |
| -                                      | NOZZLE 40030  | 18-0391  | 1   |

## DUAL LANCE ASSEMBLY (16-0416)



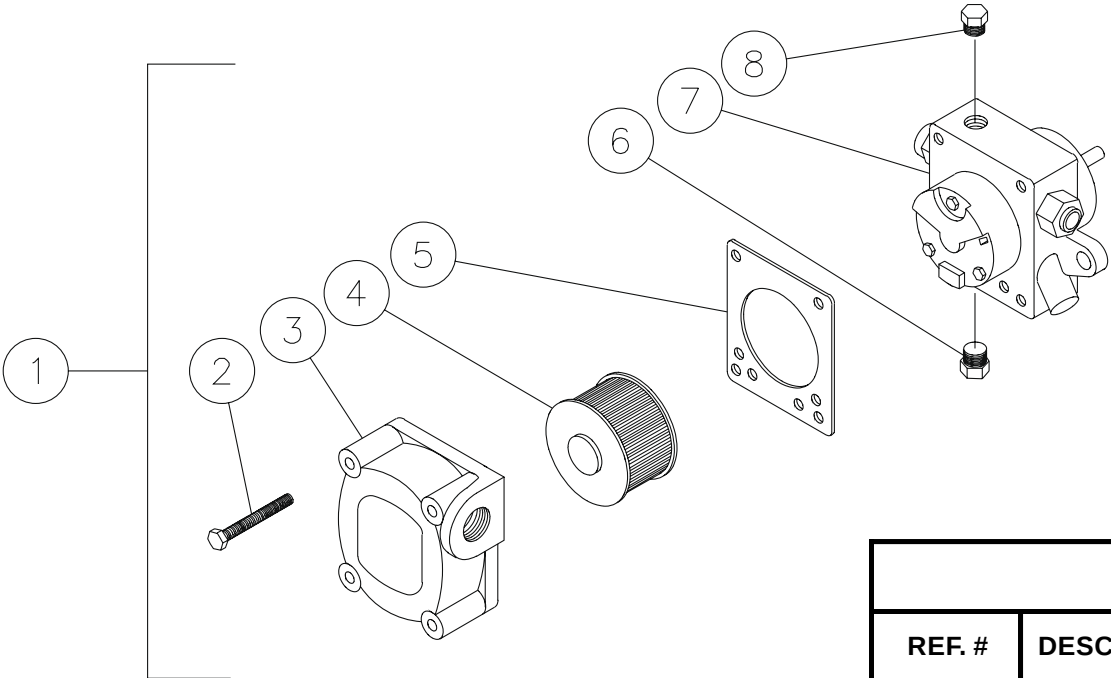
| DUAL LANCE ASSEMBLY (16-0416) |                                       |          |      |
|-------------------------------|---------------------------------------|----------|------|
| REF. #                        | DESCRIPTION                           | PART #   | QTY. |
| 1                             | Dual Lance Assembly - 36" (Inc. 2-11) | 16-0416  | 1    |
| 2                             | Detergent Nozzle                      | 18-0110  | 1    |
| 3                             | Nut                                   | 30-6001  | 1    |
| 4                             | Clamp                                 | 16-0420  | 2    |
| 5                             | Lower Valve Cover (See 16-0416)       | N/A Sep. | 1    |
| 6                             | Housing (See 16-0416)                 | N/A Sep. | 1    |
| 7                             | Lance                                 | 16-0419  | 1    |
| 8                             | Handle Repair Kit                     | 70-0419  | 1    |
| 9                             | Lance (See 16-0416)                   | N/A Sep. | 2    |
| 10                            | Screw                                 | 27-8196  | 1    |
| 11                            | Nozzle Adapter                        | 24-0280  | 2    |

# FUEL TANK



| GPH FUEL TANK ASSY 012313 CH |                                             |          |     |
|------------------------------|---------------------------------------------|----------|-----|
| FUEL TANK ASSEMBLY           |                                             |          |     |
| ITEM                         | DESCRIPTION                                 | Mi-T-M # | QTY |
| 1                            | FUEL CAP                                    | 12-0033  | 1   |
| 2                            | FUEL GAUGE GROMMET                          | 33-0255  | 1   |
| 3                            | FUEL GAUGE                                  | 22-0475  | 1   |
| 4                            | ELBOW                                       | 23-0237  | 1   |
| 5                            | FUEL PICK UP                                | 33-0296  | 1   |
| 6                            | NIPPLE                                      | 23-0247  | 1   |
| 7                            | DECAL - CAUTION: RISK OF FIRE (SEE 71-0009) | N/A      | 1   |
| 8                            | FUEL TANK                                   | 12-0242  | 1   |
| 9                            | DRAIN PLUG                                  | 68-3204  | 1   |

FUEL PUMP (3-0020)

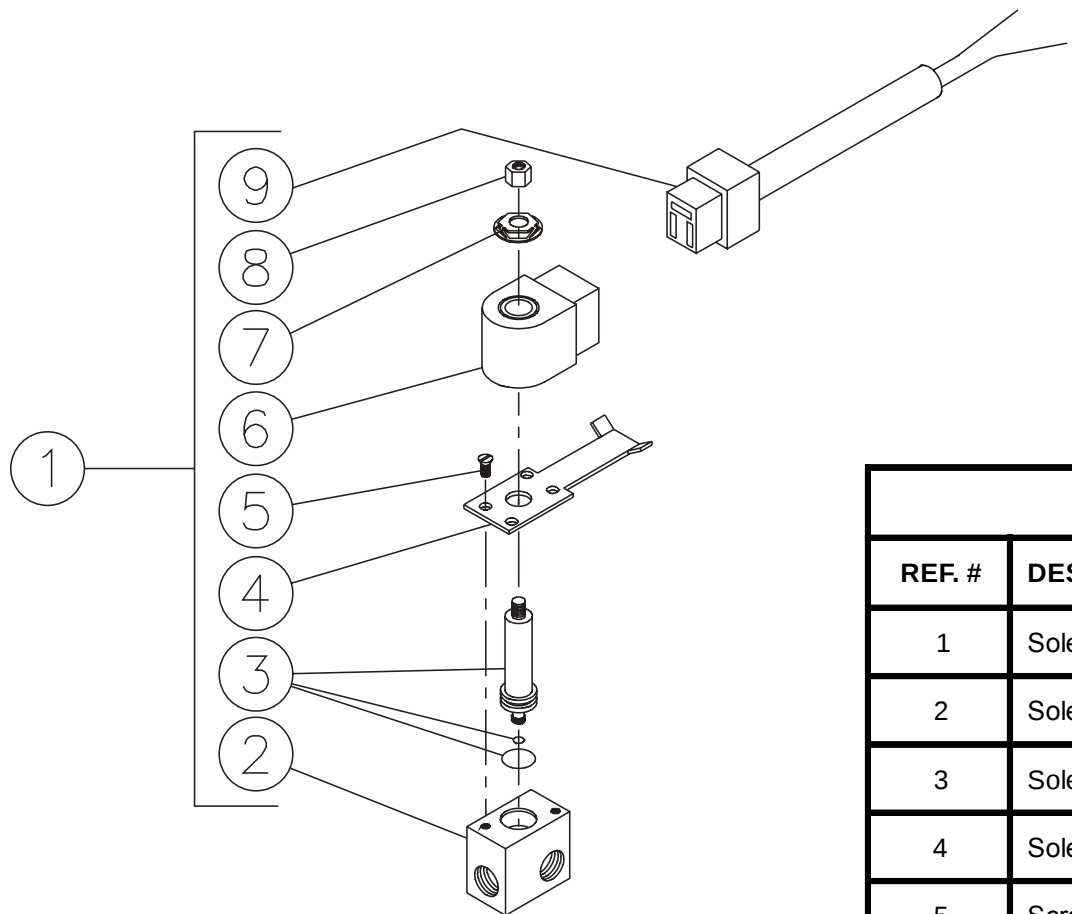


HSP018-3-0020-041597-BAR

| FUEL PUMP (3-0020) |                               |         |      |
|--------------------|-------------------------------|---------|------|
| REF. #             | DESCRIPTION                   | PART #  | QTY. |
| 1                  | Fuel Pump Complete-Right Hand | 3-0020  | 1    |
| 2                  | Cover Screw                   | 46-1006 | 4    |
| 3                  | Cover-Right Hand              | 46-1005 | 1    |
| 4                  | Strainer                      | 19-0034 | 1    |
| 5                  | Cover Gasket                  | 26-0109 | 1    |
| 6                  | Plug                          | 24-0044 | 2    |
| 7                  | Body                          | N/A     | 1    |
| 8                  | Plug                          | 24-0082 | 1    |

HSP018-041597-BAR

FUEL SOLENOID (44-0098)

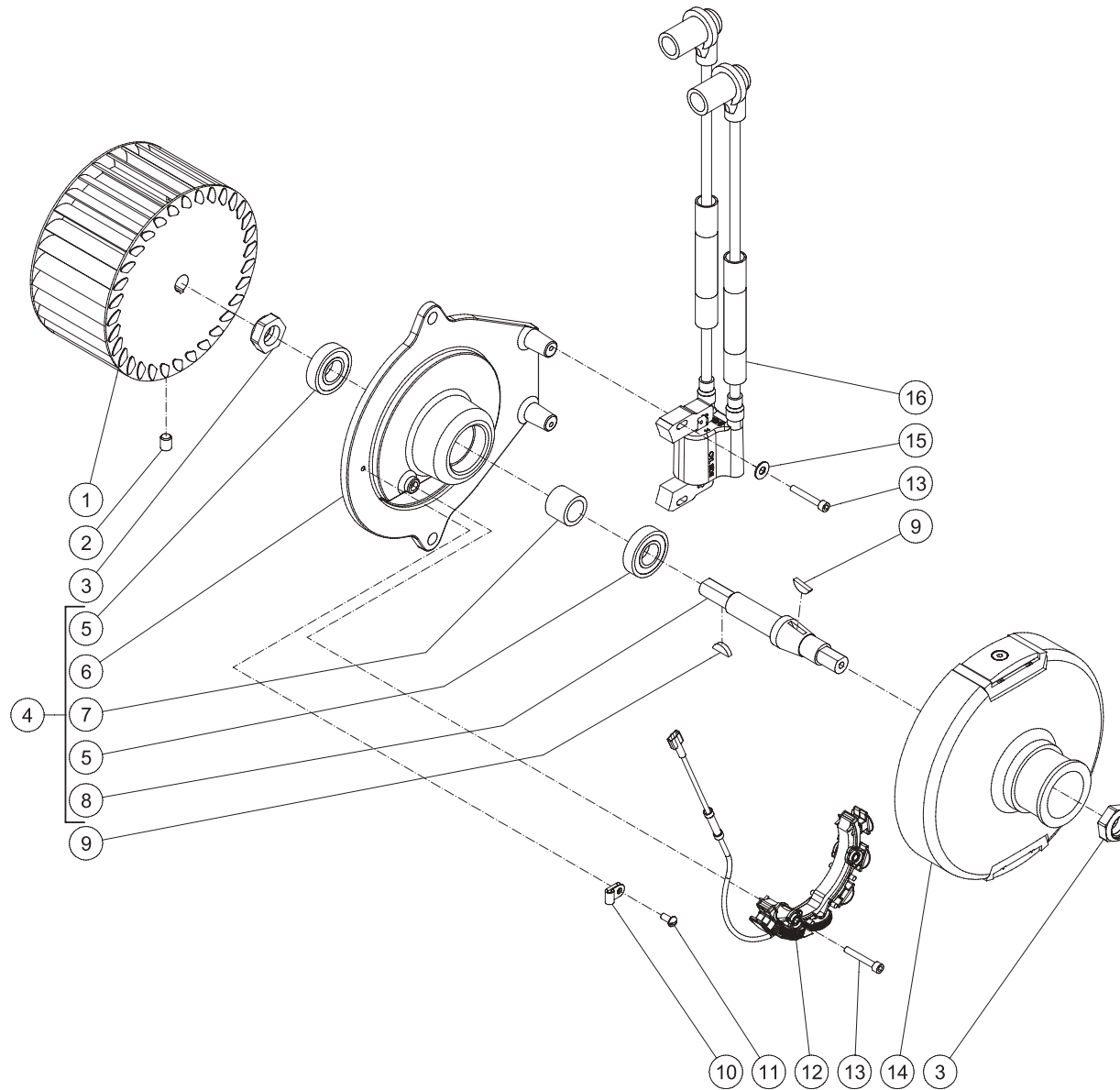


HSP013-44-0098-121698-BAR

| FUEL SOLENOID (44-0098) |                       |          |      |
|-------------------------|-----------------------|----------|------|
| REF. #                  | DESCRIPTION           | PART #   | QTY. |
| 1                       | Solenoid Complete-12V | 44-0098  | 1    |
| 2                       | Solenoid Body         | 46-1013  | 1    |
| 3                       | Solenoid Piston       | 46-1012  | 1    |
| 4                       | Solenoid Base         | 46-1014  | 1    |
| 5                       | Screw (See 44-0098)   | N/A Sep. | 2    |
| 6                       | Solenoid Coil-12V     | 46-1015  | 1    |
| 7                       | Spring (See 44-0098)  | N/A Sep. | 1    |
| 8                       | Piston Nut            | 46-1016  | 1    |
| 9                       | Din Connector Cord    | 32-0443  | 1    |

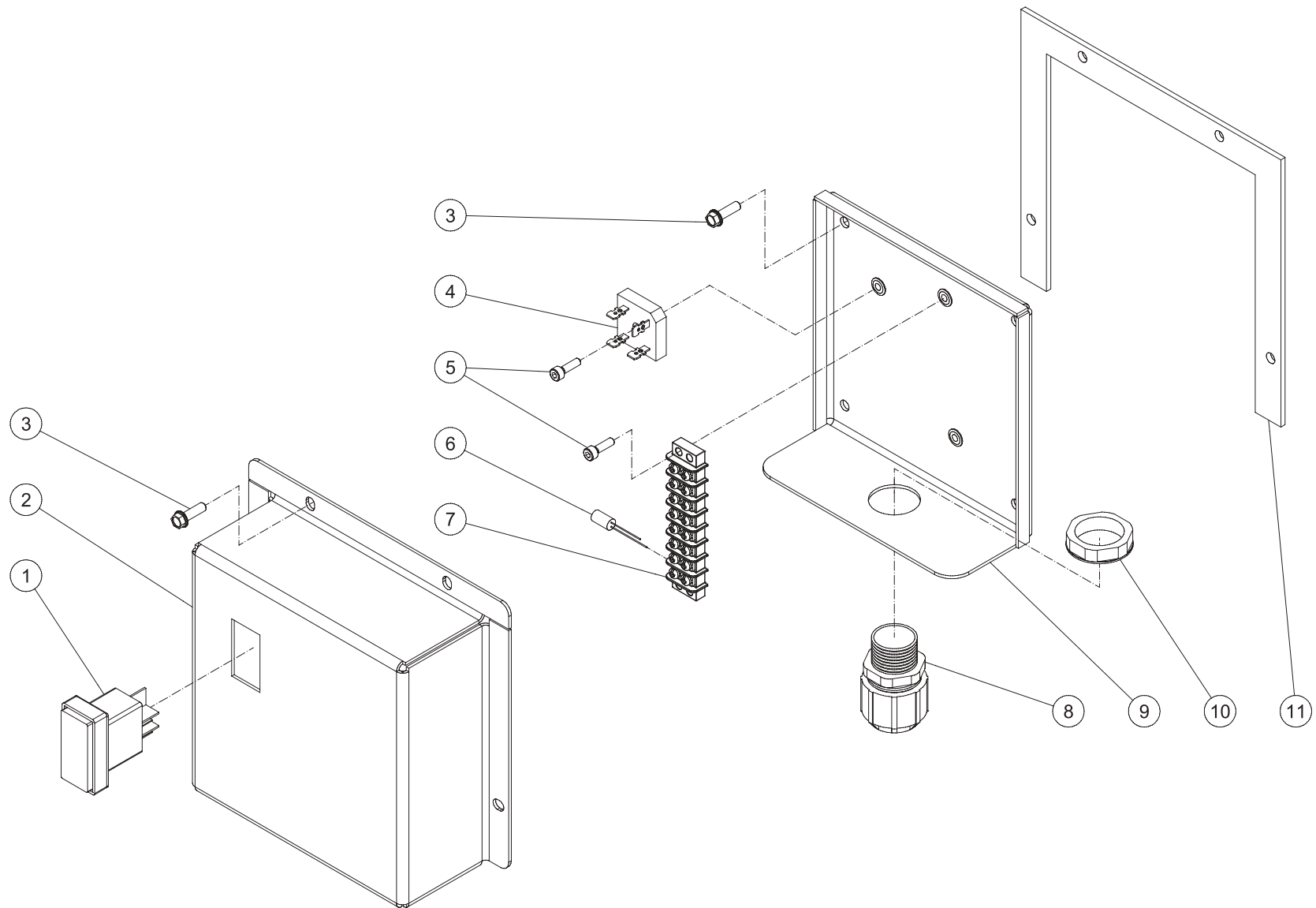
HSP013-121698-BAR

## EMF SYSTEM (850-0405)



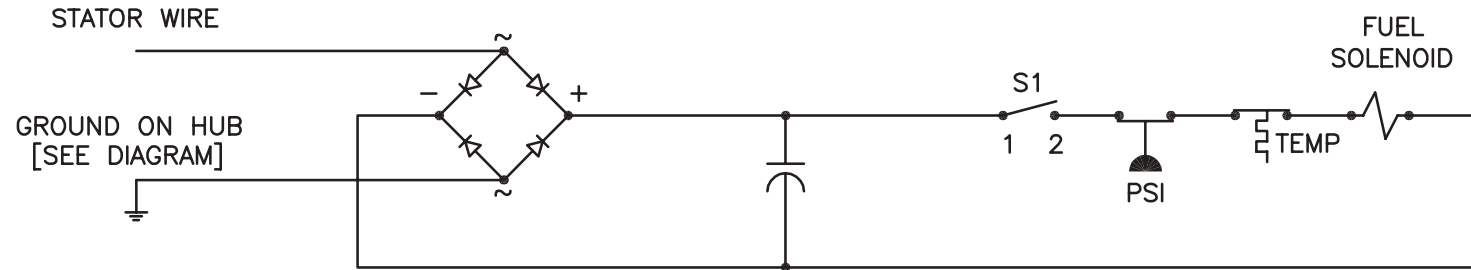
| 850-0405 CH |                        |          |     |
|-------------|------------------------|----------|-----|
| EMF SYSTEM  |                        |          |     |
| ITEM        | DESCRIPTION            | PART #   | QTY |
| -           | EMF ASSEMBLY           | 850-0405 | 1   |
| 1           | BLOWERN FAN            | 44-0099  | 1   |
| 2           | SET SCREW              | 30-3021  | 1   |
| 3           | LOCKNUT                | 30-0177  | 2   |
| 4           | BLOWER FLANGE ASSEMBLY | 850-0402 | 1   |
| 5           | SEALED BEARING         | 48-0041  | 2   |
| 6           | BLOWER FLANGE          | 38-0066  | 1   |
| 7           | SPACER                 | 33-0206  | 1   |
| 8           | BLOWER SHAFT           | 20-0347  | 1   |
| 9           | WOODRUFF KEY           | 43-0080  | 2   |
| 10          | CLAMP                  | 32-0403  | 1   |
| 11          | SCREW                  | 27-2070  | 1   |
| 12          | STATOR ASSEMBLY        | 850-0401 | 1   |
| 13          | BOLT                   | 27-0740  | 4   |
| 14          | HUB                    | 38-0041  | 1   |
| 15          | WASHER                 | 28-0001  | 2   |
| 16          | IGNITION ASSEMBLY      | 850-0414 | 1   |

# ELECTRIC BOX ASSEMBLY

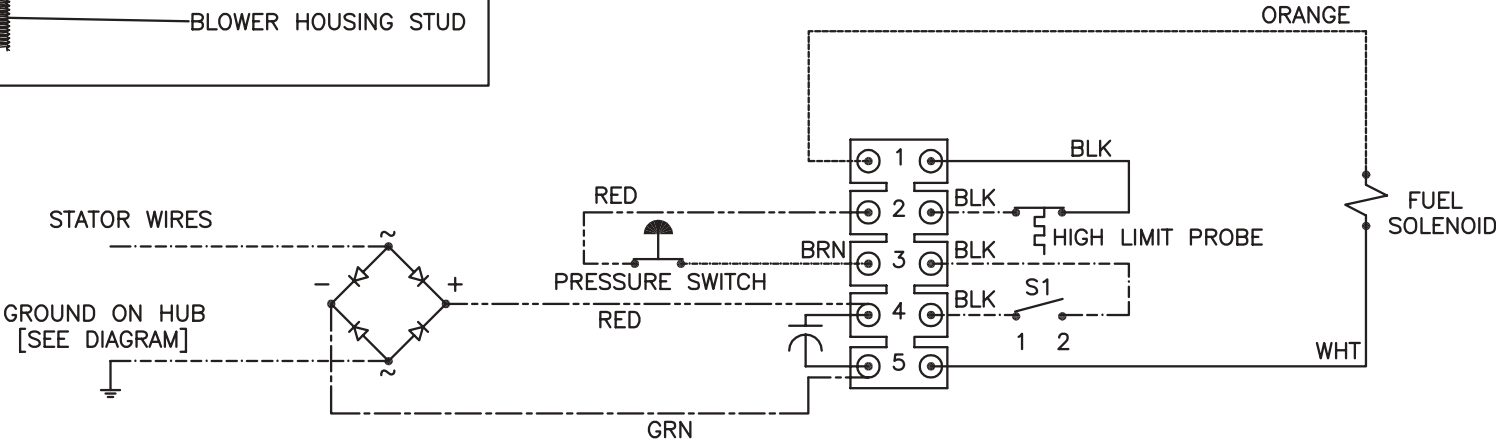
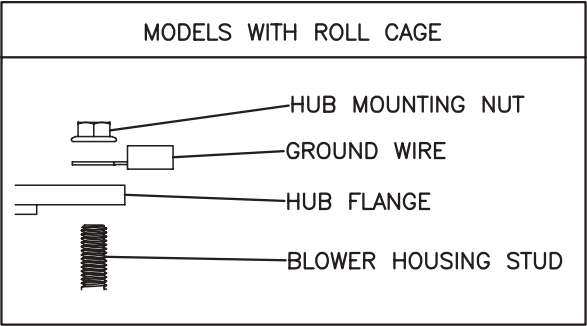


| HSP SMALL ELECTRIC BOX ASSY 012913 |                    |            |     |
|------------------------------------|--------------------|------------|-----|
| ELECTRIC BOX ASSEMBLY              |                    |            |     |
| ITEM                               | DESCRIPTION        | Mi-T-M #   | QTY |
| 1                                  | ROCKER SWITCH      | 32-0626    | 1   |
| 2                                  | ELECTRIC BOX COVER | 20-1302A01 | 1   |
| 3                                  | BOLT               | 27-9526    | 8   |
| 4                                  | BRIDGE RECTIFIER   | 32-1114    | 1   |
| 5                                  | SCREW              | 27-8835    | 3   |
| 6                                  | CAPACITOR          | 32-1113    | 1   |
| 7                                  | TERMINAL STRIP     | 32-0436    | 1   |
| 8                                  | CORD RELIEF        | 9-0046     | 1   |
| 9                                  | ELECTRIC BOX BACK  | 20-1301A01 | 1   |
| 10                                 | ELECTRICAL LOCKNUT | 32-0292    | 1   |
| 11                                 | GASKET             | 26-0384    | 1   |

## WIRING SCHEMATIC



WIRING DIAGRAM

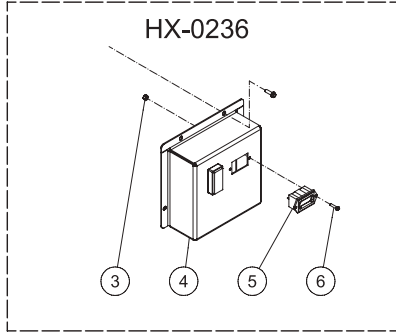
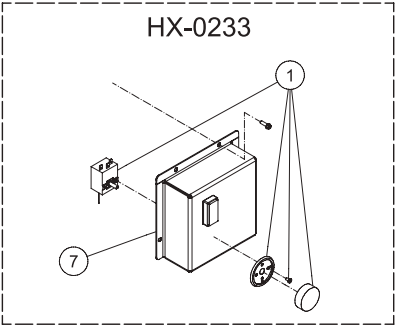
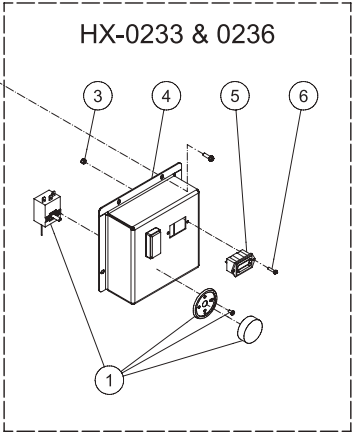
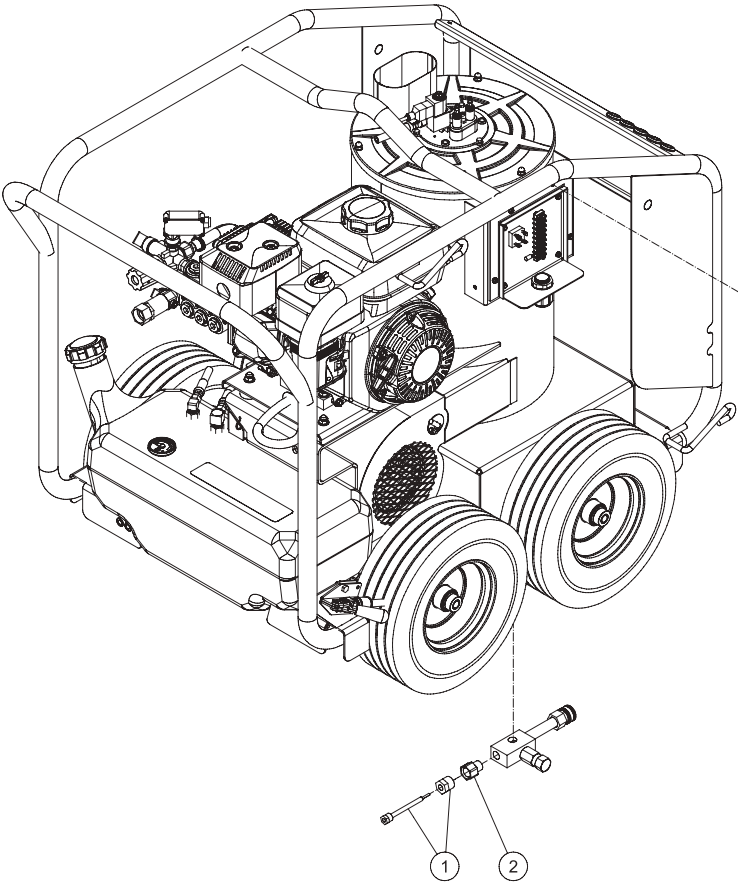




## ACCESSORIES

| OPTIONS | DESCRIPTION           |
|---------|-----------------------|
| HX-0233 | ADJUSTABLE THERMOSTAT |
| HX-0236 | HOUR METER            |

OPTION- ADJUSTABLE THERMOSTAT AND HOUR METER



HSP SMALL ADJ THERM\_HR METER

| HSP SMALL ADJ THERM_HR METER 011813 CH       |                       |            |     |
|----------------------------------------------|-----------------------|------------|-----|
| OPTION- ADJUSTABLE THERMOSTAT AND HOUR METER |                       |            |     |
| ITEM                                         | DESCRIPTION           | Mi-T-M #   | QTY |
| 1                                            | ADJUSTABLE THERMOSTAT | 32-0962    | 1   |
| 2                                            | REDUCER               | 23-0243    | 1   |
| 3                                            | LOCKNUT               | 30-0152    | 2   |
| 4                                            | ELECTRIC BOX COVER    | 20-1318A01 | 1   |
| 5                                            | HOUR METER            | 32-0668    | 1   |
| 6                                            | SCREW                 | 27-8881    | 2   |
| 7                                            | ELECTRIC BOX COVER    | 20-1302A01 | 1   |

Manufactured by Mi-T-M  
8650 Enterprise Drive, Peosta IA 52068  
563-556-7484/ Fax 563-556-1235