MOBILE ENGINE TESTING STATION

OWNER'S MANUAL

WARNING: Read carefully and understand all INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item # 141452

Thank you very much for choosing a Wel-Bilt™ product! For future reference, please complete the owner's record below:

Model: _____ Purchase Date: _____

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it.

This product is designed for certain applications only. The distributor cannot be responsible for issues arising from modification. We strongly recommend this product not be modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the product until you have first contacted the distributor to determine if it can or should be performed on the product.

For technical questions please call **1-800-222-5381**.

INTENDED USE

This mobile engine testing station designed for multipurpose engine testing; the station is ideal for leak detection, engine break-in, assembly and detailing. It can adjust to fit most engines.

TECHNICAL SPECIFICATIONS & PACKING LIST

Item	Description
Load Capacity	1000 Lbs. (454.5Kg)
Fuel Tank Capacity	1 Gallon
Engine Mounting Holes	Front: 7/16in. Inside Diameter, Rear: 3/4in. Inside Diameter

GENERAL SAFETY RULES

WARNING: Read and understand all instructions. Failure to follow all instructions listed below may result in serious injury.

CAUTION: Do not allow persons to use or assemble this engine testing station until they have read this manual in its entirety.

WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS

WORK AREA

When assembling, installing, or removing the engine cradle

- **Keep work area clean,** free of clutter and well lit. Cluttered and dark work areas can cause accidents.
- **Keep children and bystanders** away while assembling, installing or removing the engine testing station. Distractions can cause loss of control, so visitors should remain at a safe distance from the work area.
- **Be aware of all power lines, electrical circuits,** water pipes and other mechanical hazards near your work area, particularly those hazards below the work surface hidden from the operator's view that may be unintentionally contacted and may cause personal harm or property damage.

PERSONAL SAFETY

- **Stay alert,** watch what you are doing and use common sense when using the engine testing station.
- **Do not overload engine testing station beyond rated capacity of 1000 lbs.** Overloading can cause damage or failure of the engine testing station.
- **Always use station on hard, level surface capable of sustaining the engine.** Use station on other than hard level surface can result in station instability and possible loss of engine.

ASSEMBLY

Attaching the Two Swivel Casters:

- Secure the two Front Casters (1) to 1.the Right Runner (12) and Left Runner (13) using two Hex Head Bolts (2), two Washers (3), and two Nuts (4) for each Front Caster.

Attaching the Two Fixed Casters:

- Secure the two Fixed Casters (30) to the Rear Engine Beam (21), using two Hex Head Bolts (2), two Washers (3), and two Nuts (4) for each Fixed Caster.
- From underneath the Right Runner (12) and Left Runner (13), place the Battery Support Board (37) aligning one mounting hole at each end of the Battery Support Board with the mounting hole at each end of the Right and Left Runners.
- Place the Rear Engine Beam (21) against the Right Runner (12) and Left Runner (13), aligning the mounting hole in each Fixed Caster (30) with the mounting holes in the Battery Support Board (37) and Right and Left Runners.
- Secure the Fixed Casters (30) and Rear Engine Beam (21) to the Battery Support Board (37) and Right and Left Runners (12, 13) using one Hex Head Bolt (6), one Washer (3), and one Nut (4) for each Right and Left Runner.

Attaching the Battery Support Board:

- From underneath the Right Runner (12), Left Runner (13), and Battery Support Board (37), place the Battery Support Bar (16). Secure the Battery Support Bar to the Battery Support Board, Right and Left Runners using one Hex Head Bolt (6), one Washer (3), and one Nut (4) for each Right and Left Runner.

Securing the Rear Engine Beam and Front Cross Beam to the Right Runner and Left Runner:

- Insert one Washer (5) onto each Long Bolt (31). Insert one Long Bolt through the mounting hole at the end of the Rear Engine Beam (21), completely through the Right Runner (12), and through the mounting hole at the end of the Front Cross Beam (10). Secure the Long Bolt using one Washer (5) and one Nut (32). Repeat this procedure to secure the remaining Long Bolt to the other end of the Rear Engine Beam (21), Left Runner (13), and Front Cross Beam (10).

Attaching the Front Mount Supports:

- **I**nsert the two Front Mount Supports (24) onto the two upright columns of the 4in. Sleeve (14). Align the mounting hole in each Front Mount Support with the mounting hole in each column of the 4in. Sleeve. Secure the Front Mount Supports to the columns of the 4in. Sleeve using one Hex Head Bolt (7), one Washer (3), and one Nylon Lock Nut (8) for each Front Mount Support.

Attaching the Rear Engine Bow Supports:

1. The two Rear Engine Bows (9) have four mounting holes at their ends. Insert the Rear Engine Bows (with their four mounting holes downward) onto the two Sleeves with Pedestals (25). Secure the Rear Engine Bow Supports to the Sleeves with Pedestals using one Hex Head Bolt (7), one Washer (3), and one Nylon Lock Nut (8) for each Rear Engine Bow Support.

Attaching the Fuel Tank Bow Supports:

- Insert the two Fuel Tank Bow Supports (28) onto the two upright columns of the Rear Engine Beam (21), aligning the mounting hole in each Fuel Tank Bow Support with the mounting hole in each column of the Rear Engine Beam.
- Align the mounting hole in each end of the two Support Straps (29) with the mounting hole at the ends of the Right Runner (12), Left Runner (13) and Fuel Tank Bow Supports (28). Secure the two Support Straps to the Right and Left Runners and Fuel Tank Bow Supports using two Hex Head Bolts (11), two Washers (3), and two Nylon Lock Nuts (8).

Attaching the Rear Engine Bow:

- Insert each end of the Rear Engine Bow (23) onto the two Rear Engine Bow Supports (9).
- Align a mounting hole in the two Engine Straps (17) with a mounting hole in the Rear Engine Bow (23) and with the mounting hole at the top of the two Rear Engine Bow Supports (9).
- Secure the Rear Engine Bows (23) and two Engine Straps (17) to the two Rear Engine Bow Supports (9) using two Hex Head Bolts (11), two Washers (3), and two Nylon Lock Nuts (8).

Attaching the Meter Panel Support:

- Insert the Meter Panel Support Bow (22) onto the two Fuel Tank Bow Supports (28), aligning the mounting holes of the Meter Panel Support with the mounting hole at the top of each Fuel

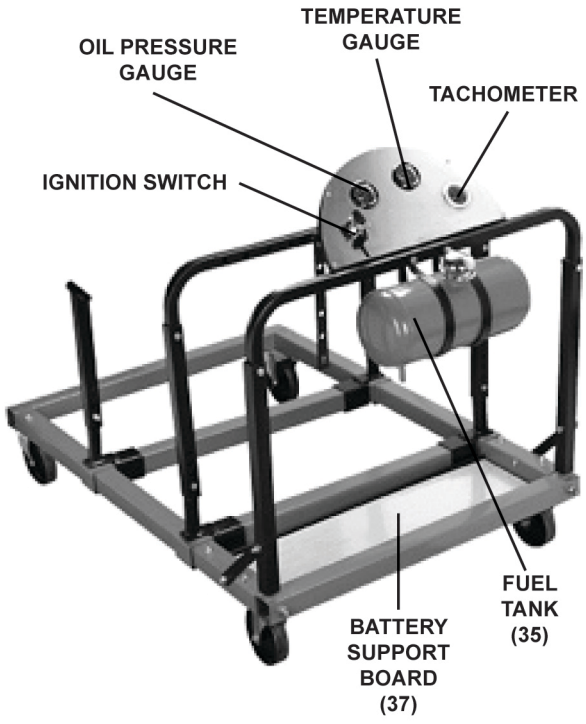
Tank Bow Support. Secure the Meter Panel Support Bow to the two Fuel Tank Bow Supports using one Hex Head Bolt (11), one Washer (3), and one Nylon Lock Nut (8).

- Attach the Meter Panel (33) to the Meter Panel Support Bow (22) using six Bolts (34).

Attaching the Fuel Tank:

- Place the Fuel Tank Strap (27) on the Fuel Tank (35), making sure to position a strap on each side of the Tank Cap (36). Also, make sure the Tank Cap is in an upward position.
- Insert a Washer (3) onto each of the two Hex Bolts (26). Attach the Fuel Tank Strap (27), with its Fuel Tank (35), to the Meter Panel Support Bow (22) using the two Hex Bolts, two Washers (3), and two Nuts (4).

Once this final step is completed, assembly is complete.

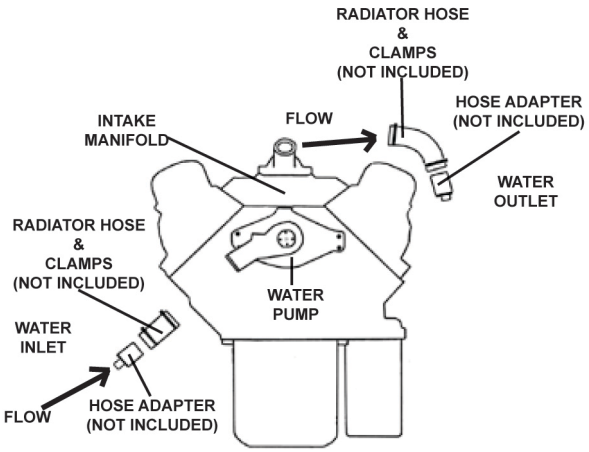


OPERATION

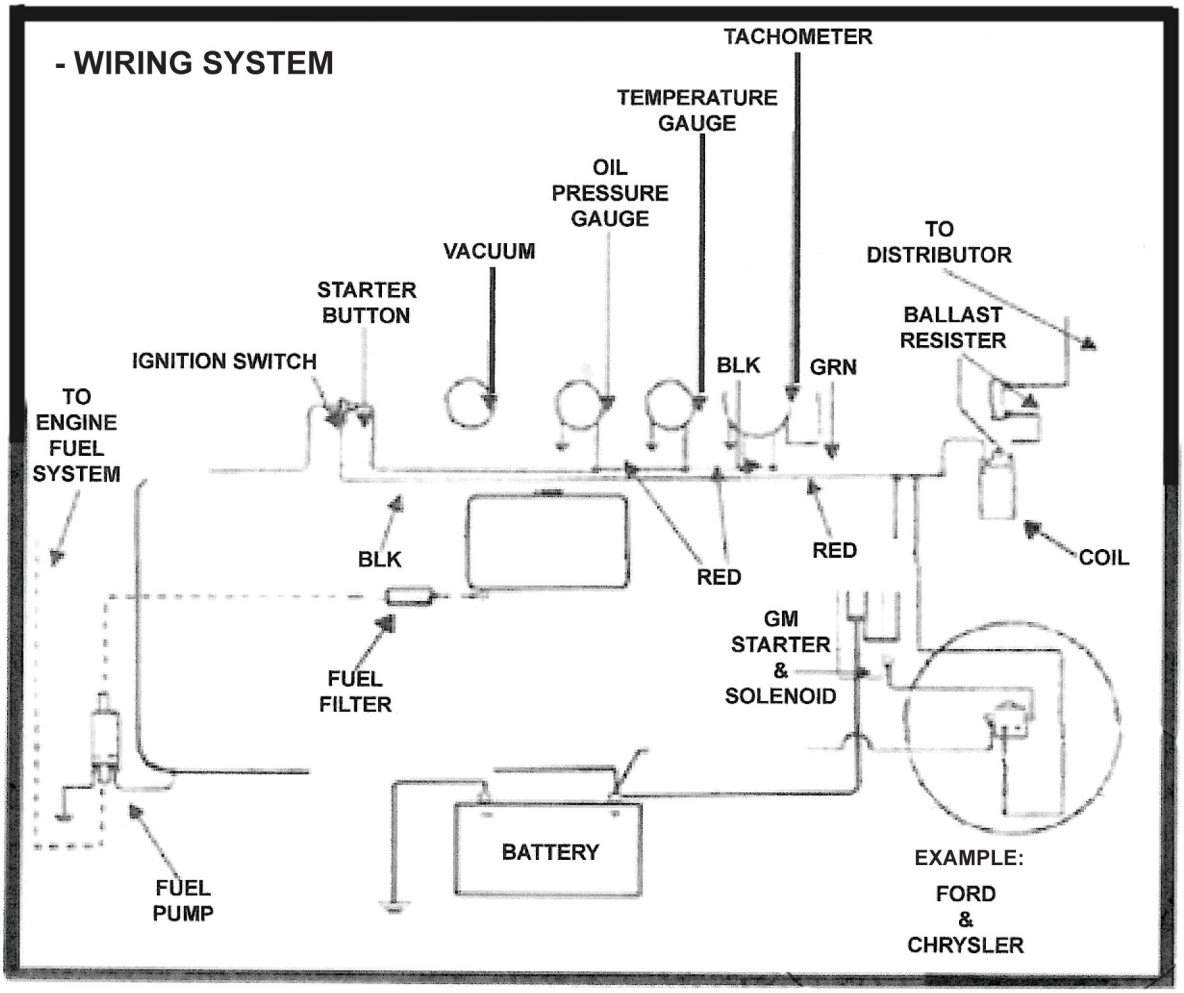
- The Mobile Engine Test Station is designed for use with most engines. Since there are a

large variety of engine makes and models, the following operation instructions are intended only as general operating procedures. Always follow engine testing procedures and precautions as specified by the engine manufacturer's repair manual.

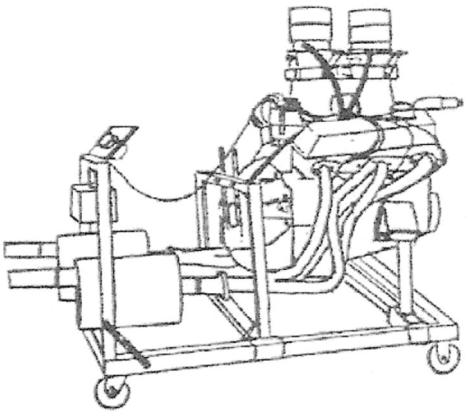
- Attach a Hose Adapter (not included) to an inlet and outlet Radiator Hose on the engine. Then attach a Garden Hose (not included) to the two Hose Adapters.
- Remove the engine's Thermostat.
- The engine's Water Pump must remain stationary (not spinning).
- The water must run in the correct direction. Otherwise, hot spots may occur inside the engine and cause damage.
- Begin with a small amount of water. Observe the Temperature Gauge on the Test Station. If necessary, regulate the temperature to 160°, 170°, or 180° Fahrenheit.
- Immediately turn off the water after turning off the engine. This will eliminate the risk of cracking the hot engine block or engine heads with cold water entering the engine. Then, allow the engine to completely cool on its own.



- The Ballast Resister on the engine cuts Battery voltage down to approximately 7 volts for longer point life. If you need 12 volts either remove the Ballast Resister or bypass the Resister.
- It is recommended that you install an inline, universal type Fuel Pump available, at most automotive parts retail stores.
- Use Hose Clamps (not included) to clamp the in-line, universal type Fuel Pump, Coils, and Ballast Resister to the Rear Engine Bow Supports (9), under the Meter Panel Support Bow (22), with weather stripping (not included) between the engine parts and Rear Engine Bow Supports.

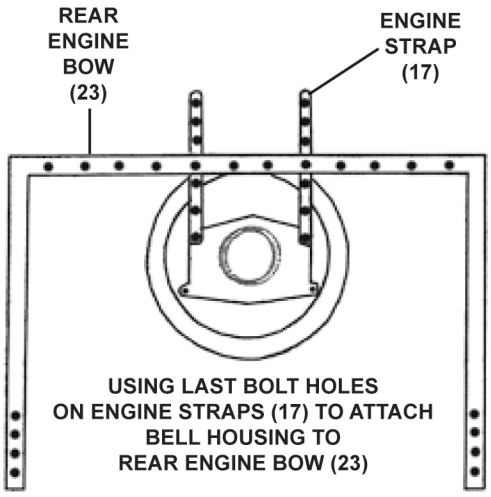


- Engines can be mounted as shown in the illustration below. Engines can also be mounted sideways or backwards on the Test Station.



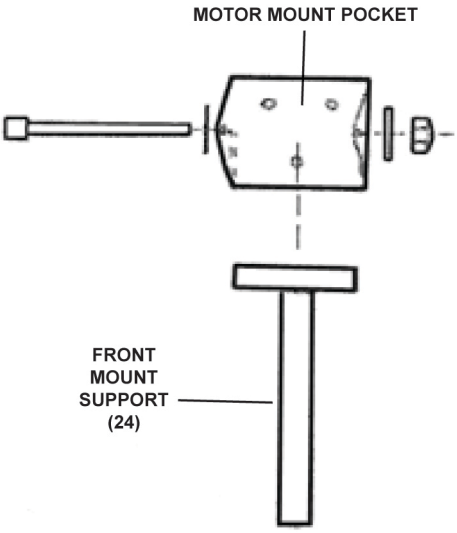
- An example of factory motor mount pockets of most engines.

(REAR MOUNTING METHOD)



- An example of factory bell housing units of most engines.

(FRONT MOUNTING METHOD)

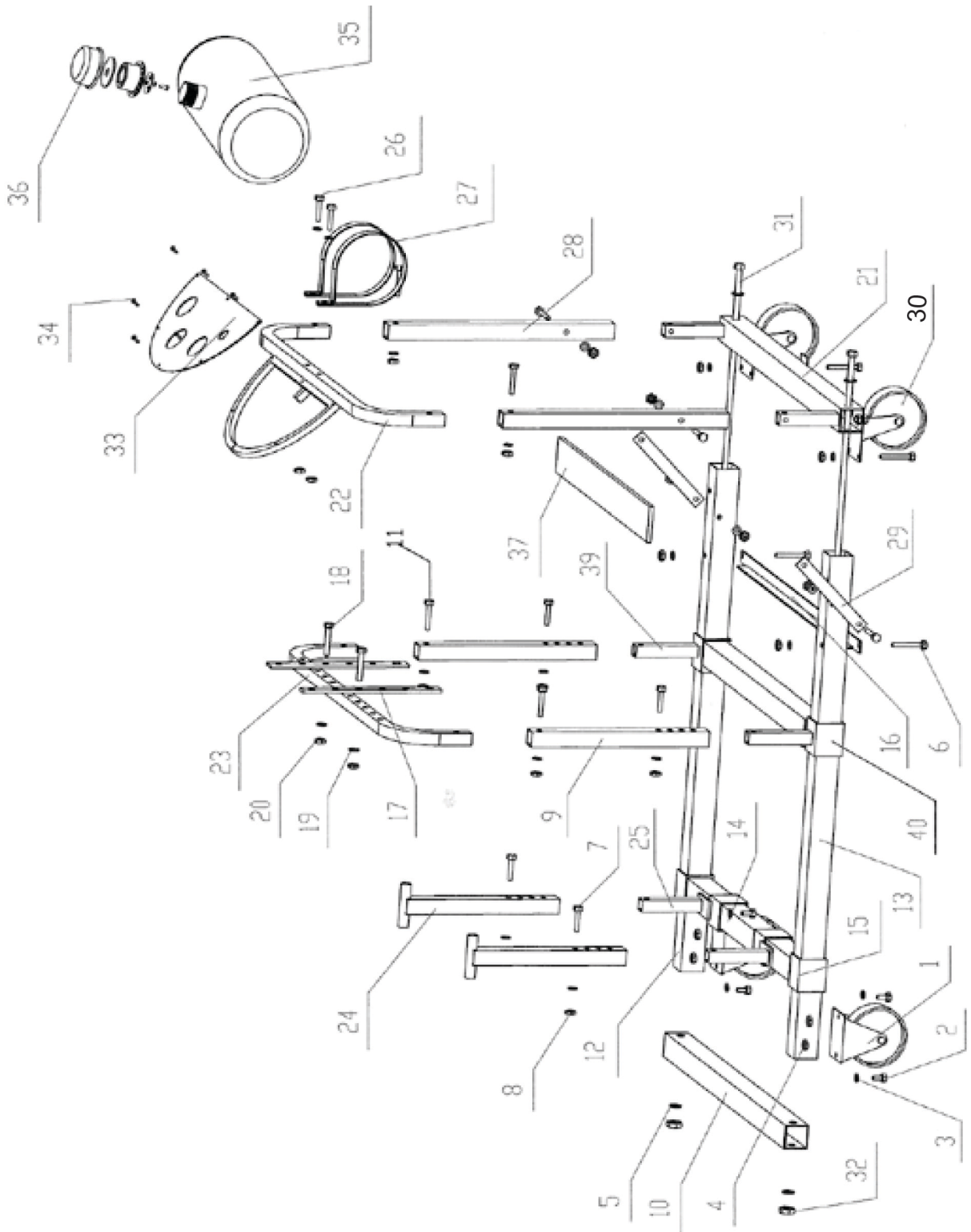


- Once the engine is connected to the Test Station, use the included Ignition Key to start the engine. Allow sufficient time for the engine to warm. Then observe the readings on the Test Station's gauges to record the data required.

MAINTENANCE

- **Keep the parts rack clean.** A properly maintained engine cradle will work more effectively. Keep all of the parts dry, clean, and free from oil and grease.
- **Cleaning.** Use only soap and a damp cloth to clean your engine cradle.

DIAGRAM & PARTS LIST



Part#	Description	Qty.	Part#	Description	Qty.
1	Front Caster	2	21	Rear Engine Beam	1
2	Hex Head Bolt(M8X20)	8	22	Meter Panel Support Bow	1
3	Washer	28	23	Rear Engine Bow	1
4	Nut(M8)	8	24	Front Mount Support	2
5	Washer	4	25	Sleeve with Pedestal	2
6	Hex Head Bolt(M8X65)	6	26	Hex Bolt(M8X65)	2
7	Hex Head Bolt(M8X45)	6	27	Fuel Tank Strap	2
8	Nylon Lock Nut(M8)	20	28	Fuel Tank Bow Support	2
9	Rear Engine Bow Support	2	29	Support Strap	2
10	Front Cross Beam	1	30	Fixed Caster	2
11	Hex Head Bolt(M8X55)	4	31	Long Bolt	2
12	Right Runner	1	32	Nut(M12)	2
13	Left Runner	1	33	Meter Panel	1
14	Sleeve(4-square tube)	2	34	Bolt(M4X8)	6
15	Slider	2	35	Fuel Tank	1
16	Battery Support Bar	1	36	Tank Cap Assy.	1
17	Engine Strap	2	37	Battery Support Board	1
18	Hex Head Bolt(M10X66)	2	38	Ignition Key	2
19	Washer	2	39	Sleeve with Pedestal	1
20	Nylon Lock Nut(M10)	2	40	Middle Beam	1

For replacement parts and technical questions, please call **1-800-222-5381**.

WARRANTY

One-Year Limited Warranty

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Northern Tool + Equipment Co., Inc.
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