



655 EISENHOWER DRIVE
 OWATONNA, MN 55060-0995 USA
 TELEPHONE: (507) 455-7000
 TECH. SERV.: (800) 533-6127
 FAX: (800) 955-8329
 ORDER ENTRY: (800) 533-6127
 FAX: (800) 283-8665
 INTERNATIONAL SALES: (507) 455-7223
 FAX: (507) 455-7063

Form No. 102302

Assembly &
 Operating Instructions for:

1750
 1750A
 D05223ST



Original Instructions

Heavy-Duty Engine Repair Stand

Maximum Capacity: 2722 kg (6000 lbs.)

Engine Stand Weight: 260 kg (573 lbs.)

Description: Designed for mounting engines, transmissions, or other components by using the universal mounting plate or a mounting plate designed specifically for the application. The component may be rotated 360 degrees by using the crank handle; the component may be raised by using the lifting jack to increase swing radius for clearance when rotating the component. Two front wheels and two rear casters provide mobility.

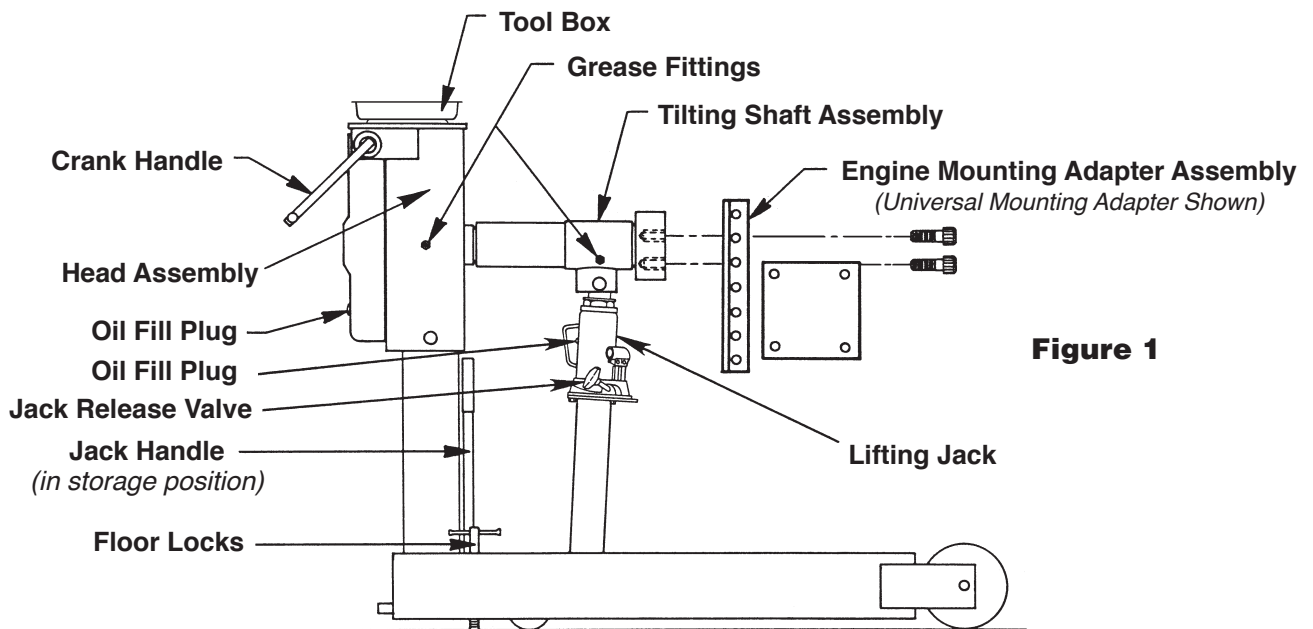


Figure 1

Explanation of Safety Signal Words

The safety signal word designates the degree or level of hazard seriousness.



DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION: Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

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Safety Precautions



CAUTION: To prevent personal injury and/ or property damage,



- Study, understand, and follow all safety precautions and operating instructions before using this engine stand. If the operator cannot read instructions, operating instructions and safety precautions must be read and discussed in the operator's native language.

- Only qualified operators may install, operate, adjust, maintain, clean, repair, inspect, or transport this machinery.



- Wear eye protection that meets ANSI Z87.1, CE EN166, AS/NZS 1337, and OSHA standards.

- Do not exceed the rated capacity of 2722 kg (6000 lbs.). Maximum capacity is determined with the center of the engine located not more than 330 mm (13 inches) from the mounting hub surface of the engine stand.

- Use the engine stand only on a hard, level surface.

- Lock the handle locking mechanism before applying a load to the engine stand. Lock the handle locking mechanism once the engine is in a working position.

- Ensure the load is centered and secured to the mounting attachments. Off-center loads may make the load and handle rotate in either direction when the rotational locking device is released. Release rotational locking devices slowly and carefully. To avoid having an off-balance load, locate the engine's center of balance within 50.8 mm (2.0 inches) of the engine stand rotating shaft.

- To maintain shear strength specifications, use alloy steel grade 8 or property class 10.9 socket head cap screws to mount adapters or engines.

- To ensure full thread engagement, tapped holes in adapters and engine blocks must be clean and not damaged. A thread length engagement equal to 1-1/2 screw diameters minimum is needed to maintain strength requirements.

- The engine must be solidly mounted to the repair stand before removing the support from the lifting device.

- Regularly check the cap screws on the repair stand assembly to verify they are torqued.

- Stay out from underneath a load that is being lifted or suspended.



- Use the lifting jack when necessary to lift the engine for rotation. While working on the engine, keep the jack at its lowest position to keep the center of gravity low and reduce the possibility of tipping.

- Release system pressure **SLOWLY** to lower an engine. Do not unscrew the release valve knob more than two turns from its closed position.

- No alterations shall be made to this product.

- Only attachments and / or adapters supplied by the manufacturer may be used.

- This device is designed for general use in normal environments. This device is not designed for lifting and moving people, agri-food machinery, mobile machinery, or in special work environments such as explosive, flammable or corrosive.

Assembly Instructions

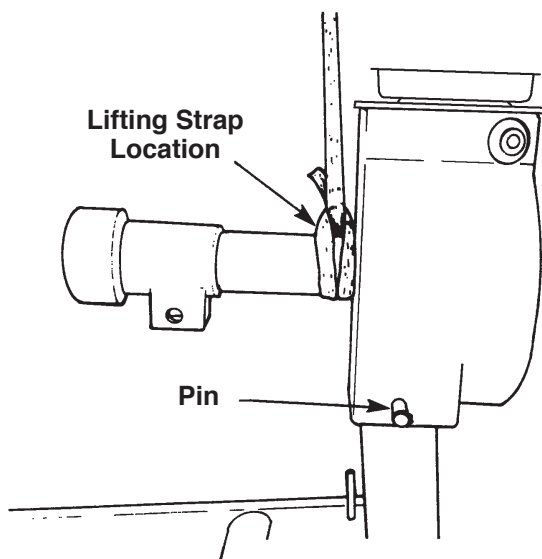
(Item numbers refer to parts list No. 100300)

Note:

- It is easier to assemble the repair stand if you leave the base on the shipping pallet during assembly.
- Use an overhead crane or lift when assembling this repair stand; a forklift may be used if other means are not available.

1. Place the head assembly in an upright position.
2. Place the tool box (Item No. 1) on top of the head assembly.
3. Place the jack (13) on the plate as shown in the parts list. Bolt the jack to the plate using lockwashers and cap screws (20 and 21) and move the completed assembly forward.
4. Assemble a retaining ring (4) on one end of each pin (Items 15 and 30).
5. Attach a lifting strap around the head assembly as shown in Figure 2. Lift the head assembly and lower it onto the post. Align the holes and insert the longer pin (30). Place a retaining ring (4) on the other end of the pin.

Figure 2



6. Raise the lifting jack assembly and fit it into the mounting bracket located under the tilting shaft assembly. Insert a pin (15) and fasten the pin in place with a retaining ring (4).
7. Place the jack handle (29) in its storage position on the repair stand as shown in Figure 1.
8. Tighten the collar (6) until snug against the bushing on the tube assembly (3). Back off the collar 1/8 turn and tighten the set screw (5).
9. If an engine mounting adapter has been included, attach it to the tilting shaft as shown in Figure 1. Torque the bolts to 610 N•m (450 ft. lbs.)

Note: Use the hex stock (provided) as an adapter with a socket wrench on the allen head screws.

Using the Universal Adapter Plate to Mount an Engine

1. Verify the handle locking mechanism on the engine stand is engaged before mounting an engine. Refer to Figure 5.
2. Select an engine adapter plate that has the correct bolt pattern for the engine to be serviced. Use the application chart provided with the adapter plate to determine which bolt holes adapt to the specific engine model.
3. Bolt the engine adapter plate to the engine using the spacers, bolts, and washers specified in the application chart. Wrench tighten the bolts. See Figure 3.
4. Attach side plates to the engine adapter plate, but leave the cap screws and nuts loose.
5. See Figure 4. Align the engine (with side plates attached to the adapter plate) with the universal adapter plate on the engine stand. Raise or lower the engine until its center of balance is in-line with the rotating shaft of the engine stand. *Note: The engine's center of balance (greatest concentration of weight) is usually about 50.8 mm (two inches) above the center of the crankshaft.*
6. Align the closest tapped holes in the universal adapter plate with holes in the side plates. Securely tighten the side plates to the engine adapter plate on the engine and to the universal adapter plate on the engine stand.

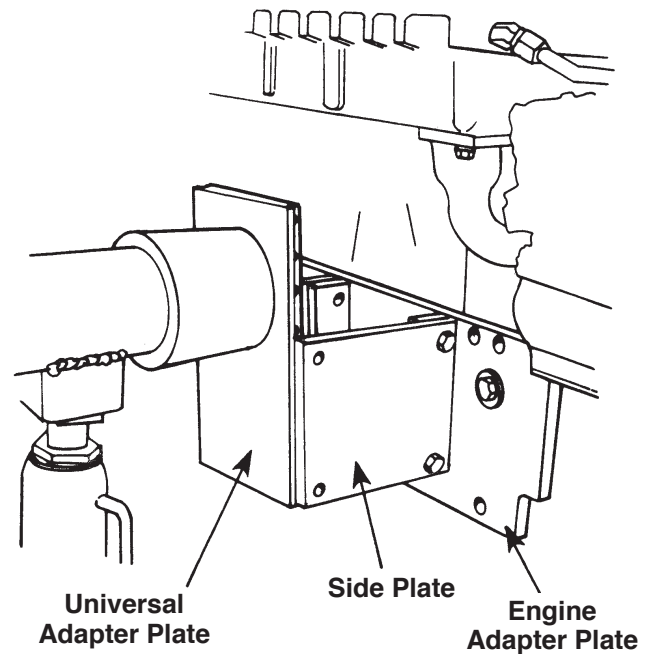


Figure 3

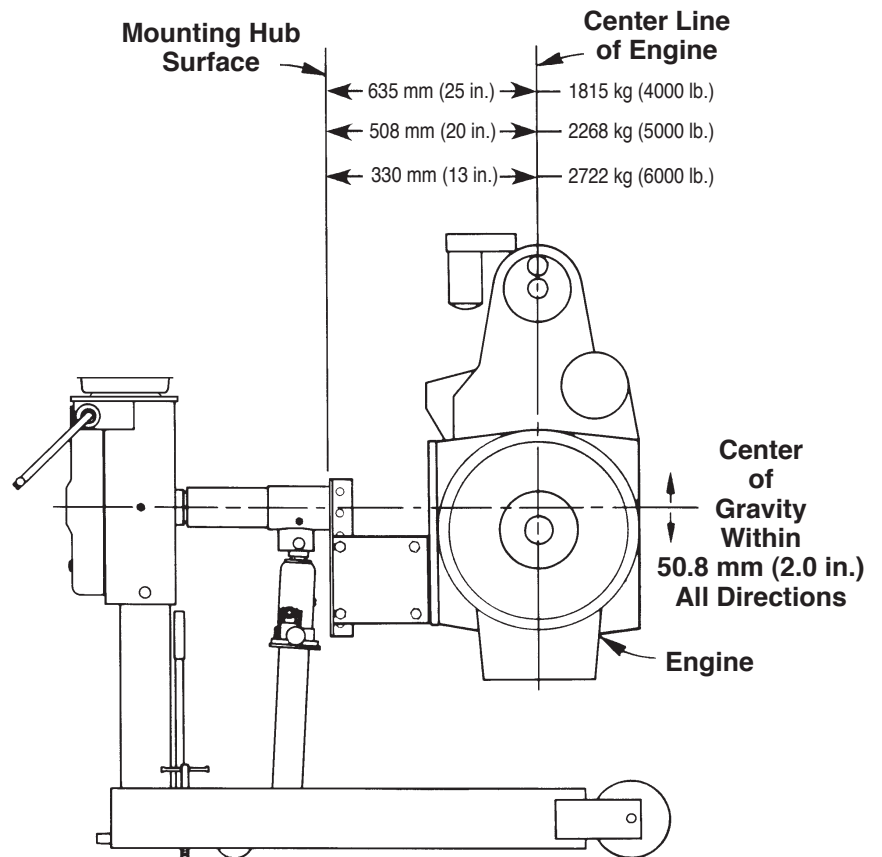


Figure 4

Handle Locking Mechanism

To ensure engine stability in all positions, this repair stand is equipped with a positive-crank handle locking mechanism. See Figure 5.

To Engage: Slide the collar inward toward the gear housing. Align and engage the collar slots with the socket head cap screws of the housing. It may be necessary to rotate the crank slightly to engage the collar.

To Disengage: Slide the collar away from the housing beyond the shaft's ball detent.

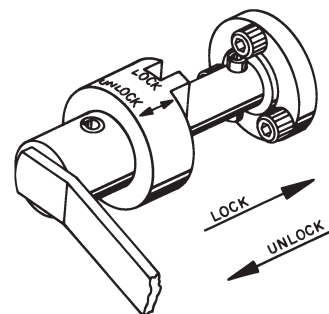


Figure 5

Preventive Maintenance



CAUTION: It is absolutely required that the two grease fittings on the tilting shaft and the gear box are serviced regularly using a good quality grease. Failure to grease this area can cause equipment damage and possible injury to the operator.

1. The worm and gear assembly operates in oil contained in the gear cover housing. The oil level should be just below the fill plug hole located on the lower part of the cover. Check the oil level regularly, and add oil if necessary (Mobilux, EP-023 or equivalent).
2. Regularly check the oil level in the hydraulic lifting jack. Fully retract the jack piston and remove the small hex filler plug located on the main body. Add approved hydraulic jack oil until the oil level is just below the filler plug hole. Install the filler plug.
3. If it is difficult to rotate an engine in one direction only, tighten the collar (Item 6) until snug against the gear box post. Back off the collar 1/8 turn and tighten the set screw (5).
4. Do not tighten the jack release valve tighter than necessary; never use a pliers on the release valve.
5. Regularly check all cap screws on the engine stand to verify they are still torqued. Refer to parts list No. 100300 for torque specifications.
6. Refer to parts list No. 100300 for repair part numbers.

English**EC Declaration of Conformity**

We SPX Service Solutions
of 655 Eisenhower Drive
Owatonna, Minnesota 55060-995 USA

in accordance with the following Directive(s):
2006/42/EC The Machinery Directive

hereby declare that:


Equipment 6,000 lb. Heavy-Duty Engine Repair Stand
Model Number 1750 / 1750A

is in conformity with the applicable requirements of the following documents:

Ref. No.	Title	Edition / Date
N/A	N/A	N/A

I hereby declare that the equipment named here has been designed to comply with the relevant sections of the above referenced specifications and is in accordance with the requirements of the Directive(s).

Signed by:

Name: Rodd Joos 
Position: Director, Mechanical Engineering
Location: Owatonna, Minnesota
Date: 5/5/2010

The technical documentation for the machinery is available from

Name: SPX Service Solutions Germany GmbH
Address: Am Dörrenhof 1
85131 Pollenfeld / Preith, Germany
represented by Alex Waser, Geschäftsführer

Spanish**French****German**