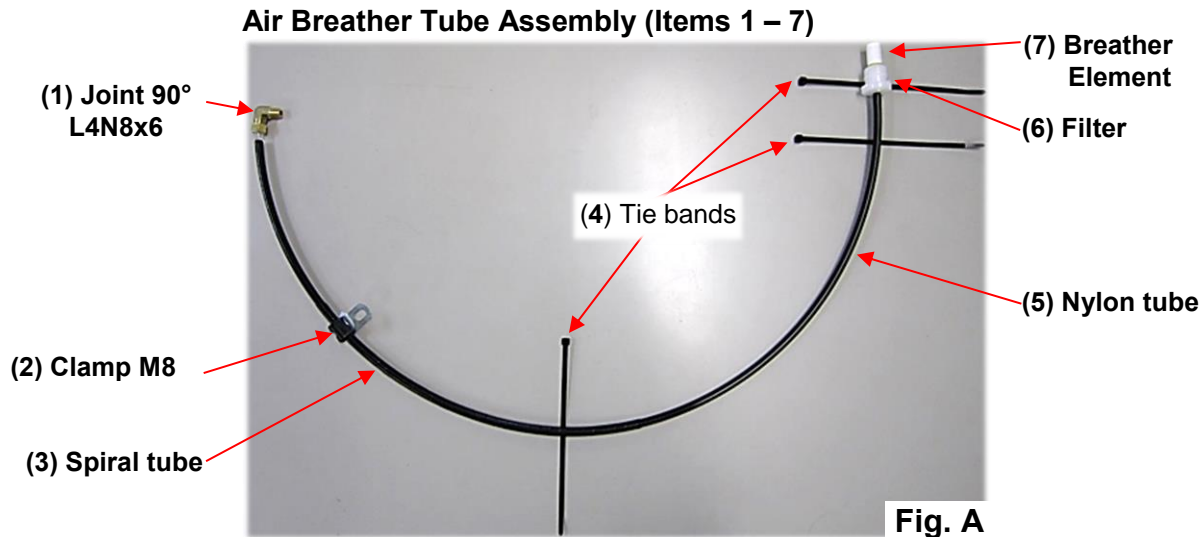


AIR BREATHER ASSEMBLY RETROFIT INSTALLATION

The purpose of this document is to inform the technician of the installation process for the breather assembly. This is optional for machines below the following serial numbers, MVH308DZ & MVH308GH s. #D1482, MVH408DZ & MVH408GH s. #D1492, and MVH508DZ s. #D1297.



MVH-308GH & 308DZ, MVH-408GH & 408DZ

Qty.	Part #	Description
1	467355940	Cover, Vibrator, Breather
1	467910040	Air Breather Tube Assembly (Items 1~7)
1	467355910	Rotary Shaft, Drive
2	080200550	Stop Ring
1	060405040	Oil Seal

MVH-508DZ

Qty.	Part #	Description
1	467355940	Cover, Vibrator, Breather
1	469910040	Air Breather Tube Assembly (Items 1~7)
1	467355910	Rotary Shaft, Drive
2	080200550	Stop Ring
1	060405040	Oil Seal

AIR BREATHER ASSY RETROFIT INSTALLATION

(A) Perform the following preparations, Ref. Fig. 1:

- 1) Remove rear cover from handle.
- 2) Remove belt cover, outer.
- 3) Remove V-belt(s).
- 4) Remove 4 isolator screws 16x35.
- 5) Disconnect hyd. hose from cylinder and plug hose end.



Fig. 1

(B) Perform the following preparations, Ref. Fig. 2 & 3:

- 1) Place a lifting strap around lifting hook.
- 2) Carefully lift the base off the rubber mounts while monitoring the hydraulic oil hose.
- 3) Remove any hardware restricting the separation of the hydraulic hose from the vibrator box.
- 4) Lift/Separate upper and lower sections, set upper section to the side for full lower section access.
- 5) Clean the lower section free of any dirt, sand etc.
- 6) Remove the 18 screws from the top cover of the vibrator case; remove the cover and the O-ring.

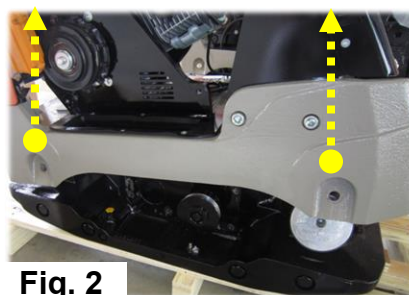


Fig. 2

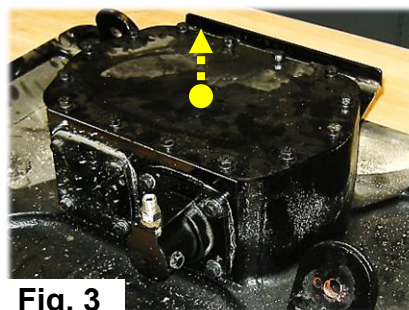


Fig. 3

AIR BREATHER ASSY RETROFIT INSTALLATION

(C) Disassembly of drive shaft (2):

Warning: Be very careful not to have fingers caught between gear and eccentric rotator.

- 1) Reference (item numbers) in parts illustration, (Fig. 4).
- 2) Remove 2 screws (7), then remove 2 eccentric rotators (6).
- 3) Remove 5 screw (52), then remove belt cover, lower (51).
- 4) Remove 1 screw (43), then remove vibrating pulley (40).
- 5) Remove 4 bolts (34), then remove bearing cover (27) and O-ring (30). When removing the bearing cover, use the bearing cover threaded holes for removal.
- 6) Hit the pulley end of the drive shaft (2) with a plastic hammer to drive it out the bearing cover side, remove the outer bearing at outer bearing cover side, (Fig. 5).

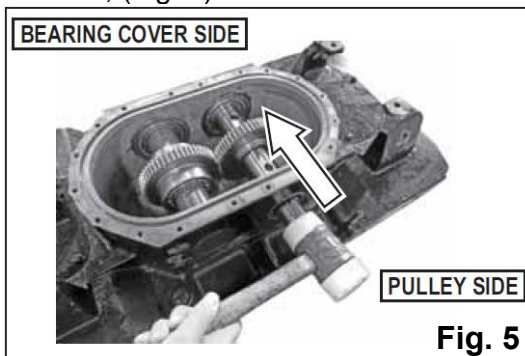


Fig. 5

- 7) Remove oil seal (8).
- 8) Remove the drive shaft (2) assembly from inside of the vibrator case.
- 9) Remove inner bearing race from both ends of drive shaft (2) with pulley puller.
- 10) Remove the stop rings (5) from drive shaft (2), then remove the drive gear (4), (it may need to be pressed off, do not hit with a hammer), (Fig. 6).
- 11) Remove the key (3).

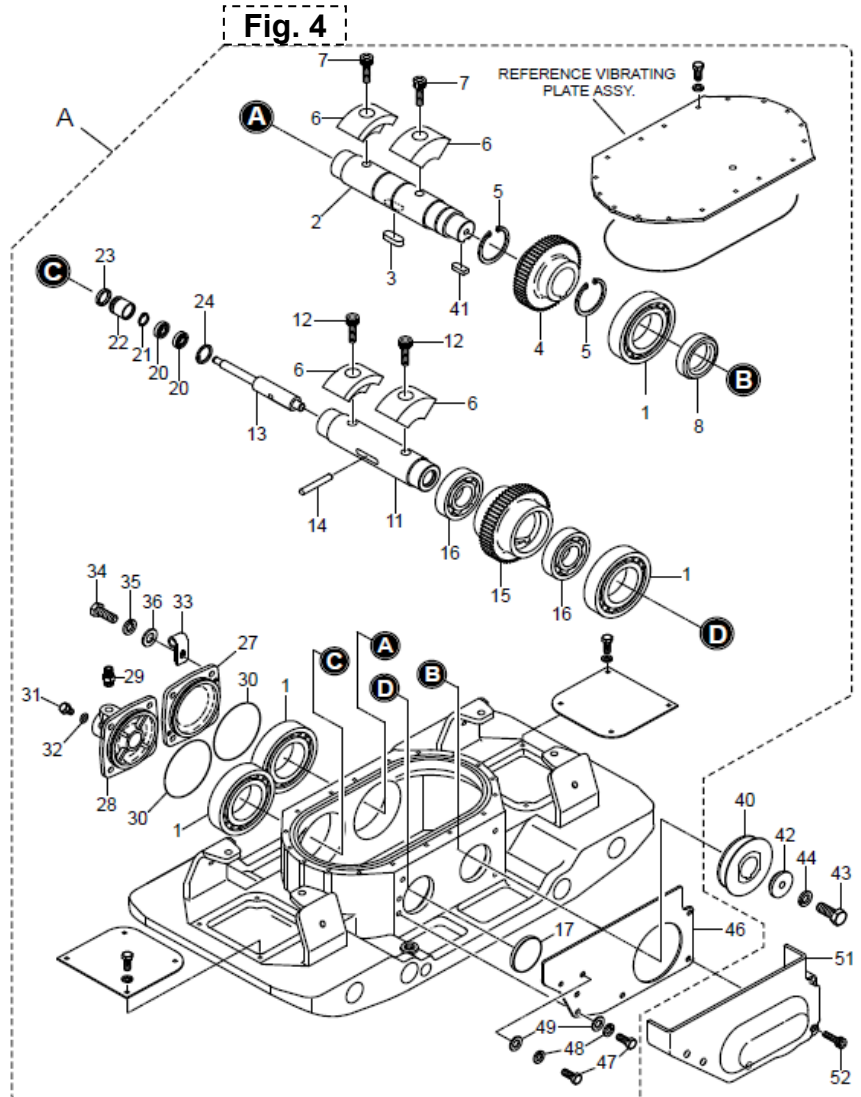


Fig. 4

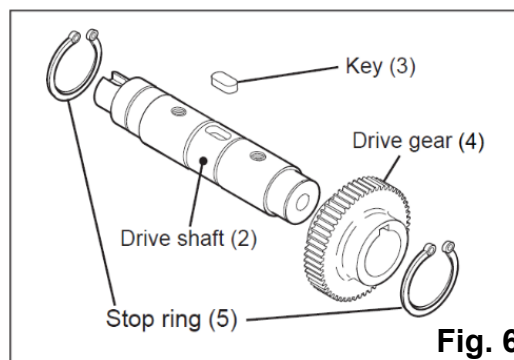


Fig. 6

AIR BREATHER ASSY RETROFIT INSTALLATION

(D) Assembly of drive shaft:

- 1) Degrease and clean the contact surface between the vibrator case and vibrator top cover and other parts.
- 2) Assemble the key (3) to new drive shaft (2), then press fit drive gear (4). Install new stop rings (5), (Fig. 6).
 - Apply grease to the drive gear (4) before installation.
 - The punch mark of drive gear (4) should face the pulley side of drive shaft (2), (Fig. 7).
 - Ensure the orientation of the stop rings is correct, (the edge side should face to the outside).
- 3) Press fit the inner bearing race at both ends of drive shaft (2).
 - Both inner bearing race flanges should go towards eccentric rotator side, (Fig. 7).

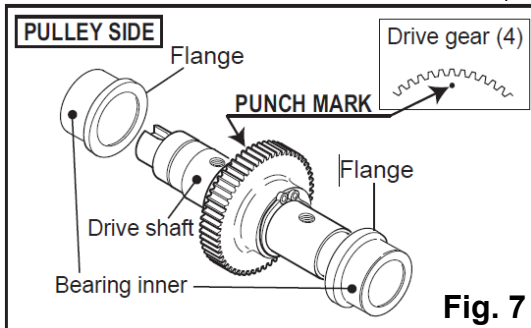


Fig. 7

- 4) Insert the drive shaft (2) into the vibrator case.
- 5) Insert the inner race of drive shaft (2) pulley end into the outer bearing pulley side while aligning the punch marks of both gears, (Fig. 8).

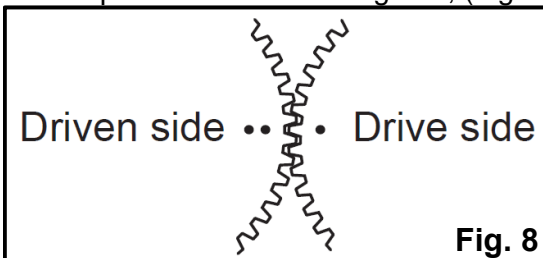


Fig. 8

- 6) Assemble the bearing insertion puller to threaded holes of bearing cover then assemble the bearing insertion cup between the center bolt and the bearing housing, (Fig. 9).

- 7) Press fit the bearing outer of bearing cover side with the bearing insertion puller and bearing insertion cup to 2 to 3 mm deep from the mounting surface of bearing cover, (Fig. 9 & 10).

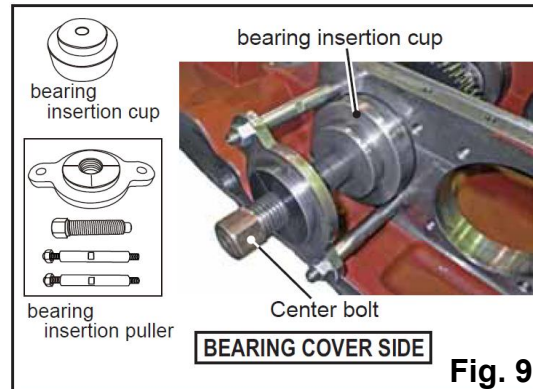


Fig. 9

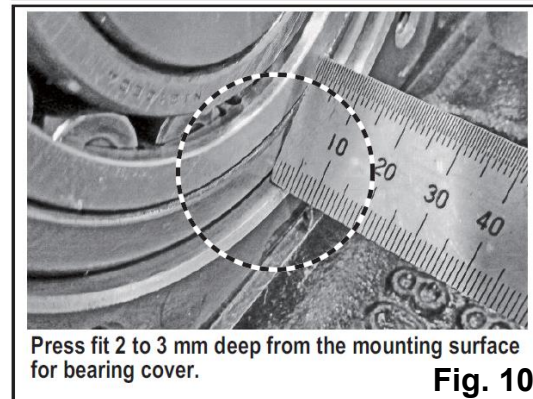


Fig. 10

- 8) Assemble the O-ring (30) to the bearing cover (27) then install it onto the vibrator case.
- 9) Check the drive shaft end play. (Standard value: 0.5mm to 1.0mm).
- 10) Insert new oil seal (8) into vibrator case pulley side of drive shaft.

Caution

- Assemble the bearing after applying grease.
 - Assemble the O-ring after applying grease.
 - When inserting oil seal, make sure that there is no bend on oil seal and no damage on lip.
 - Apply Loctite #243 to the screws for assembling the bearing cover, torque to (25 ft-lb).
- 11) Assemble the eccentric rotators (6) to the drive shaft with 16x40 bolts (7). Apply Loctite #263 and torque to (202 ft-lb).

AIR BREATHER ASSY RETROFIT INSTALLATION

(E) Vibrator case cover installation:

- 1) If needed add new vibrator oil at this time, (10W-30) to oil level height (9mm) or 600cc (0.6L) oil quantity.
- 2) Degrease the contact surface between the vibrator case and vibrator top cover.
- 3) Install O-ring and cover to vibrator case.
- 4) Apply Loctite #243 to the 18 screws for the cover and install screws. Torque to (25 ft-lb) in a crisscross pattern, (Fig. 11).

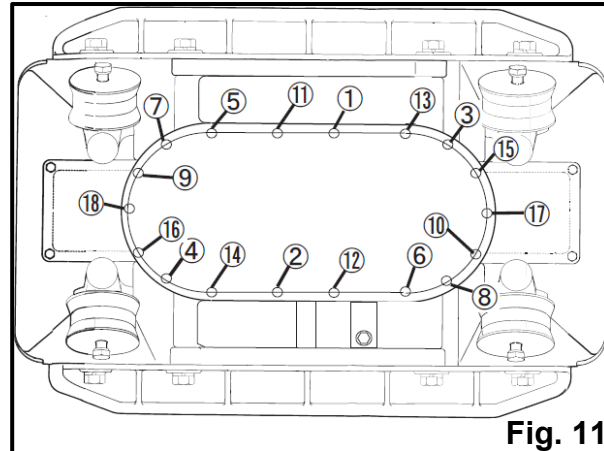


Fig. 11

(F) Air breather tube assy. installation:

- 1) Apply Loctite 565 to threads of joint 90° L4N8x6, (Ref. Fig. A, page 1).
- 2) Install joint 90° L4N8x6 to the vibrator box at a 45° position as shown in (Fig. 12a).
- 3) Feed the (**nylon tube assembly**) down through upper opening of the handle bar column.
- 4) Carefully lift and place the upper base back over the vibrator case leaving just enough space to attach the breather hose to the joint 90° L4N8x6 and tighten the joint 90° L4N8x6 nut.
- 5) Apply Loctite 242 to 8x20 bolt and secure **nylon tube assembly** with the (**new 8 mm clamp**) and bolt, torque to (25.3 ft-lb), (Ref. Fig. 12b).

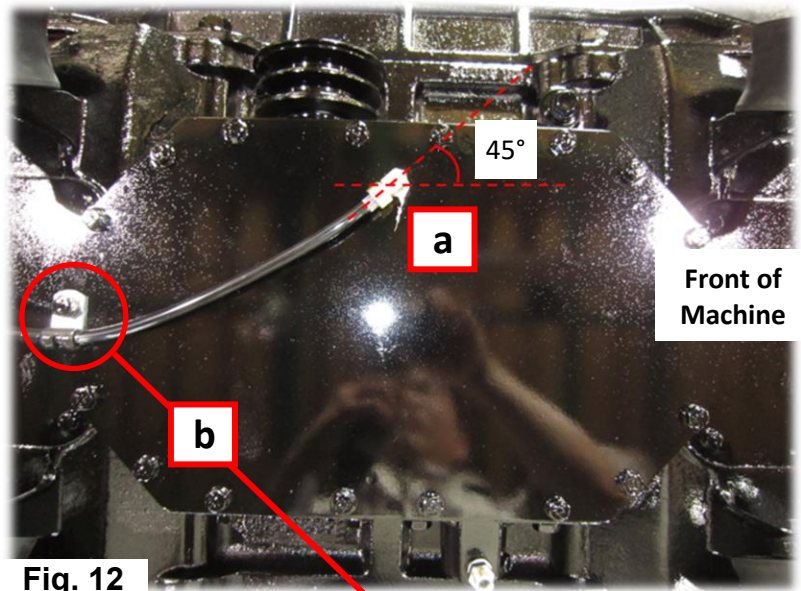


Fig. 12



AIR BREATHER ASSY RETROFIT INSTALLATION

Air breather tube assy. installation continued:

- 6) Place the upper base back onto the rubber mounts ensuring the rubber dust cover is guided around the lower guide plate & belt cover, (Ref. Fig. 13).
- 7) Apply Loctite #242 to the 16x35 8.8 bolts.
- 8) Install the 16x35 8.8 bolts and torque to (144 ft-lb).
- 9) Install the V-belt(s) by pulling it over/onto the clutch sheave with a shop rag.
- 10) Install the upper/outer belt cover.
- 11) Use wire ties to secure the new breather assembly to the hydraulic hose while ensuring enough slack is left so there is no tension to the breather assembly when the handle is moved from the stowed and operation positions, (Fig. 14).

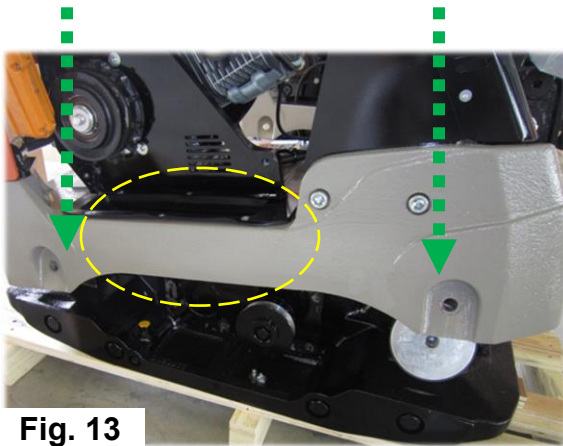


Fig. 13

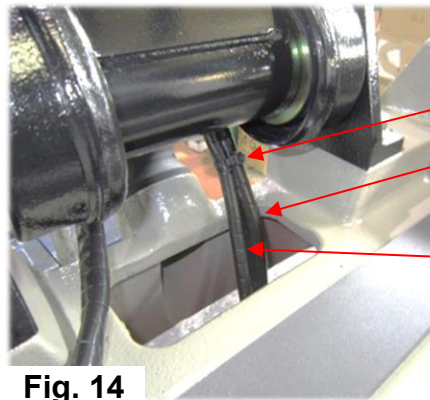


Fig. 14

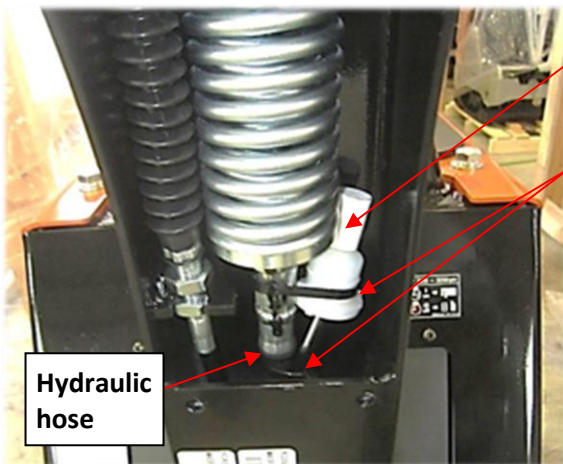
Wire tie

Hydraulic hose

Tube assy
Allow some slack

- 12) Observe/follow the following wire tie configurations for units with and without a harness.
- 13) Install the handle cover.

Without a Harness

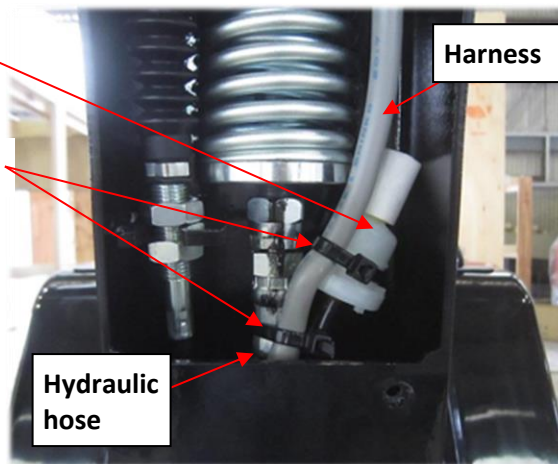


Hydraulic hose

Filter

Wire ties

With a Harness



Harness

Hydraulic hose