

# INSTALLATION INSTRUCTIONS

## DRAG SPECIALTIES DRAG ENGINE ISOLATOR MOUNT KITS P/N 0933-0117, 0118, 0119

**ATTENTION INSTALLER** (if other than owner): Please forward this Instruction Sheet to the purchaser of this product. These instructions contain valuable information necessary to the end user.

**INTRODUCTION:** These instructions describe the procedure for properly installing the engine vibration mounts on 2004-2016 XL models.

Review instructions carefully before beginning, as they contain important information. Please retain for future reference.

Particularly important information is distinguished in these instructions by the following notations:

**NOTE:** A NOTE provides key information to make procedures easier or clearer.

**CAUTION:** A CAUTION indicates special procedures that must be followed to avoid damage to the motorcycle and/or accessories.

**WARNING:** A WARNING! Indicates special procedures that must be followed to avoid injury to a motorcycle operator or person inspecting or repairing the motorcycle.

### PROCEDURE:

**CAUTION:** Only remove either the front or rear engine mount isolator assembly at a time, do not remove both. Complete the installation of one isolator assembly before starting the removal of the other.

#### FRONT ENGINE MOUNT/ISOLATOR KIT PART #0933-0117

1. Position motorcycle on a suitable lift.
  2. Remove the exhaust system.
  3. Loosen the rear axle and drive belt.
  4. XL Models with Forward Mount Controls: Remove both forward foot control assemblies.
  5. Support front of engine with engine jack and suitable blocks.
  6. See Figure 1. Remove screw (4) securing upper front stabilizer link (2) to stabilizer link bracket (3).
  7. See Figure 2. Remove screw (3) securing lower front stabilizer link (1) to stabilizer link bracket (2).
  8. See Figure 3. Remove screw (4) from left end of rear stabilizer link (1) and ground strap (2). Remove spacer (5).
- NOTE:** See Figure 4. Jack the engine up or down to remove bolt (3).
9. Remove nut (4) and bolt (3) from front engine mount/isolator assembly.
  10. Remove screws (5) from front isolator mount (2) on left side of motorcycle. Remove isolator mount and left front isolator (1).
  11. Without damaging the wire harness caddy, raise the front of the engine.
  12. Without damaging the frame downtube, carefully pry front end of engine to the left approximately 1.0 in (25.4 mm).
  13. Remove the right front isolator (1) from the crankcase.

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1. See Figure 4. Install both front isolators (1) in engine mounting boss on front of crankcase. Note that each



0933-0117



0933-0118



0933-0119

isolator has a half-moon tab and fits into engine mounting boss in only one way. Push engine to the right until right isolator contacts frame boss.

2. Install front isolator mount (2) over left front isolator.
3. Install screws (5) through front isolator mount and thread into frame. Tighten to 25-35 ft-lbs.
4. Insert bolt (3) through front isolator/engine mount assembly from left side. Thread nut (4) onto bolt. Tighten to 95-105 ft-lbs.
5. See Figure 2. Attach lower front stabilizer link (1) to bracket (2) with screw (3). Tighten to 25-35 ft-lbs.

#### REAR ENGINE MOUNT/ISOLATOR KIT PART #S 0933-0118 AND 0933-0119

#### REMOVAL

1. Remove exhaust system.
  2. With the aid of a engine jack, support motorcycle on bike lift.
- NOTE:** Position vehicle on bike lift so that engine jack may be used (with the aid of suitable blocks) to support engine when rear engine mount is removed.
3. Remove sprocket cover. See Figure 7. Remove screw (6),



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washer (5) and exhaust pipe clamp bracket (4). Remove two screws (2, 3). Remove sprocket cover (1).

4. Loosen rear axle and remove rear drive belt from front pulley.
5. XL Models with Passenger Footrests: Remove left passenger footrest assembly.
6. Unbolt rear brake master cylinder remote reservoir. Do not disconnect hose from reservoir. Secure reservoir to vehicle in an upright position, out of the way.
7. Support rear fork assembly using vehicle tie-down straps.
8. See Figure 2-167. Remove rear fork pivot bolts (1).
9. Pull rear fork back far enough to clear rear engine mounts and isolators.
10. Motorcycles Equipped with EVAP: Remove EVAP canister and mounting bracket
11. See Figure 3. Remove screws (3, 4) securing rear stabilizer link (1). Remove stabilizer link, ground strap (2), and spacer (5).
12. See Figure 1. Remove screw (4) securing upper front stabilizer link (2) to stabilizer link bracket (3).
13. See Figure 2. Remove screw (3) securing lower front stabilizer link (1) to stabilizer link bracket (2).
14. Support rear of engine with lifting device and suitable blocks.
15. See Figure 5. Remove two screws (7) securing rear isolator mount (2) to left side of frame. Remove isolator mount and left isolator (3).
16. Remove three screws (6) securing rear pivot lock plate (5) to rear of engine case. Remove lock plate and rear pivot shaft (4).

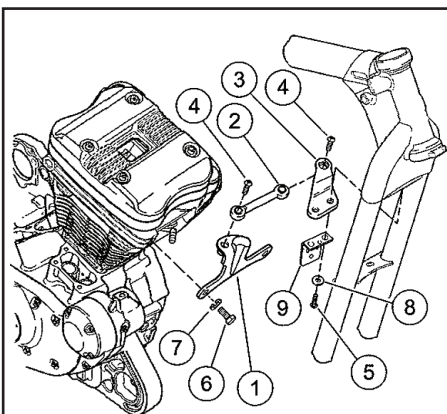
**NOTE:** Engine may need to be jacked up or down slightly to aid in removing pivot shaft.

17. Carefully pry rear end of engine to the left approximately 1 in. Remove right rear isolator (3) from frame.

### INSTALLATION

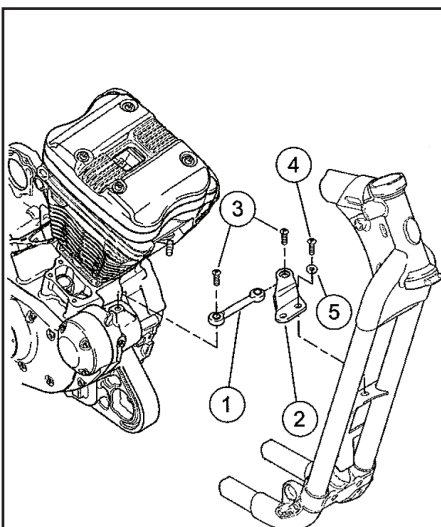
1. See Figure 5. Install new right rear isolator (3) into frame, lining up tabs on isolator with slots in frame. Slide rear end of engine to the right until engine mounting boss on rear of crankcase contacts right isolator.
2. Slide rear fork pivot shaft (4) through engine mounting boss.
- NOTE:** Engine may need to be moved slightly in one direction or another in order to line up pivot shaft with isolator.
3. Install rear pivot lock plate (5) over pivot shaft with ridges on lock plate engaging flats on pivot shaft flange. Secure to crankcase with three screws (6). Tighten to 80-120 in-lbs.
4. Install new left rear isolator (3) on rear fork pivot shaft.
5. Place rear isolator mount (2) over left rear isolator, lining up tabs on isolator with slots in isolator mount. Install screws (7). Tighten to 25-35 ft-lbs.
6. Remove engine jack and blocks.
7. See Figure 1. Attach upper front stabilizer link (2) to bracket (3) with screw (4). Tighten to 25-35 ft-lbs.
8. See Figure 2. Attach lower front stabilizer link (1) to bracket (2) with screw (3). Tighten to 25-35 ft-lbs.
9. See Figure 3. Install short screw (3) through ground strap (2) and rear stabilizer link (1) into frame on right side of motorcycle. Install long screw (4) through free end of ground strap, stabilizer link and spacer (5) into engine case. Tighten both screws to 25-35 ft-lbs.

**WARNING!:** Before operating motorcycle, be sure all hardware is tight.



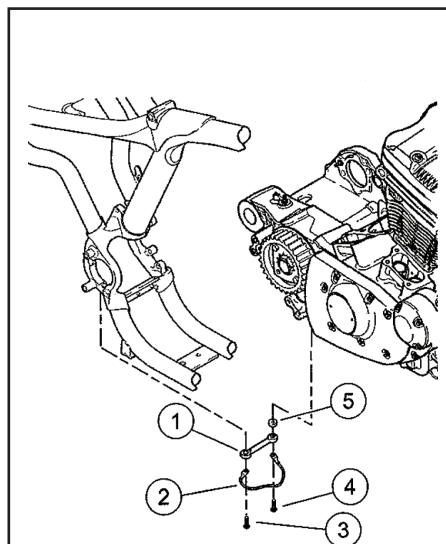
1. Engine bracket
2. Upper stabilizer link
3. Upper frame bracket
4. Screw
5. Screw (2)
6. Screw (2)
7. Lock washer (2)
8. Washer (2)
9. Horn bracket (front mount models)

Figure 1 Upper Front Stabilizer Link Assembly



1. Lower stabilizer link
2. Lower frame bracket
3. Screw (2)
4. Screw (2)
5. Washer (2)

Figure 2 Lower Front Stabilizer Link Assembly



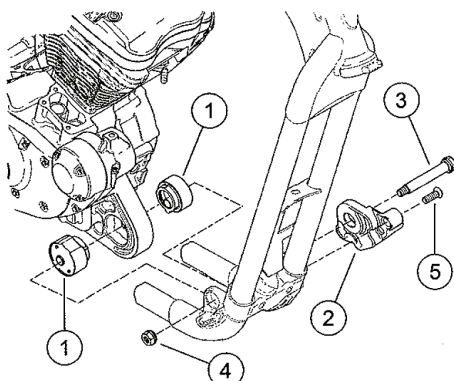
1. Stabilizer link
2. Grounding strap
3. Screw
4. Screw
5. Spacer

Figure 3 Rear Stabilizer Link Assembly



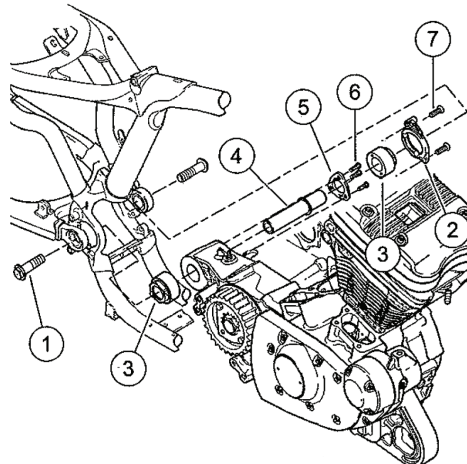
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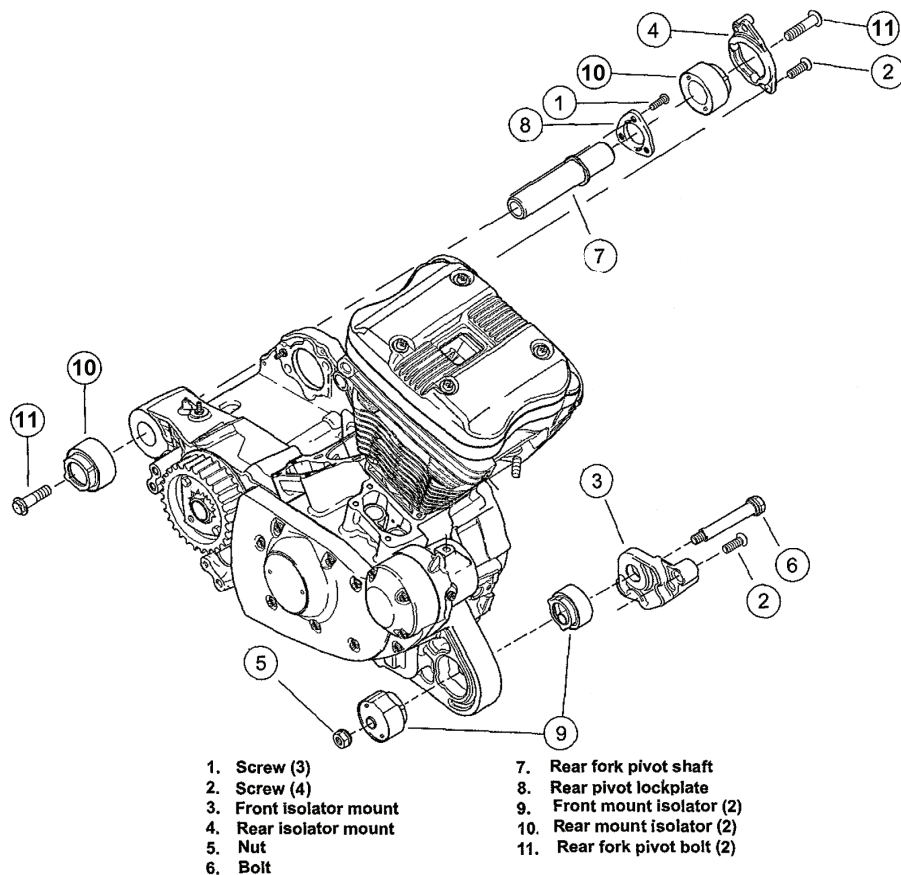
- 1. Isolator
- 2. Front isolator mount
- 3. Bolt
- 4. Nut
- 5. Screw (2)

Figure 4 Front Engine Mount/Isolator



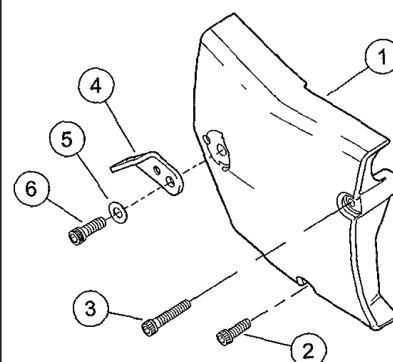
- 1. Bolt (2)
- 2. Rear isolator mount
- 3. Isolator (2)
- 4. Rear fork pivot shaft
- 5. Rear pivot lockplate
- 6. Screw (3)
- 7. Screw (2)

Figure 5 Rear Engine Mount/Isolator



- 1. Screw (3)
- 2. Screw (4)
- 3. Front isolator mount
- 4. Rear isolator mount
- 5. Nut
- 6. Bolt
- 7. Rear fork pivot shaft
- 8. Rear pivot lockplate
- 9. Front mount Isolator (2)
- 10. Rear mount isolator (2)
- 11. Rear fork pivot bolt (2)

Figure 6 Front & Rear Engine Isolator Mounts



- 1. Sprocket cover
- 2. Screw
- 3. Screw
- 4. Exhaust pipe clamp bracket
- 5. Washer
- 6. Screw

Figure 7

