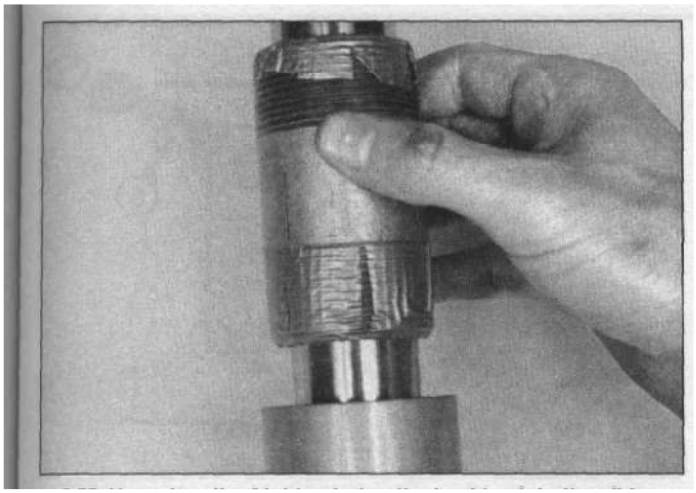
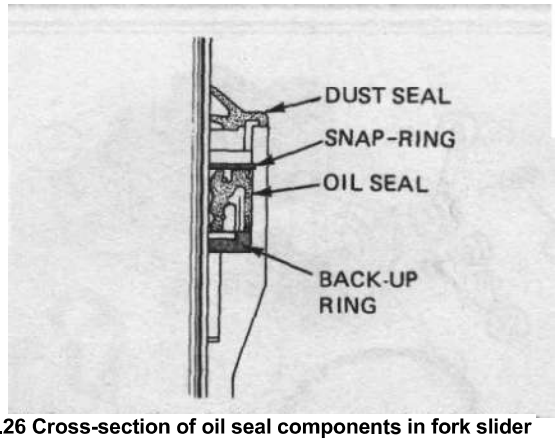
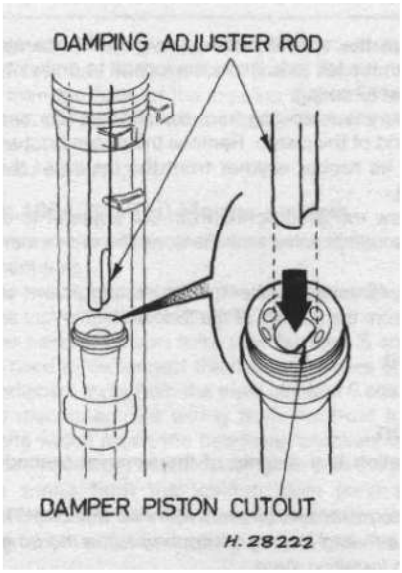


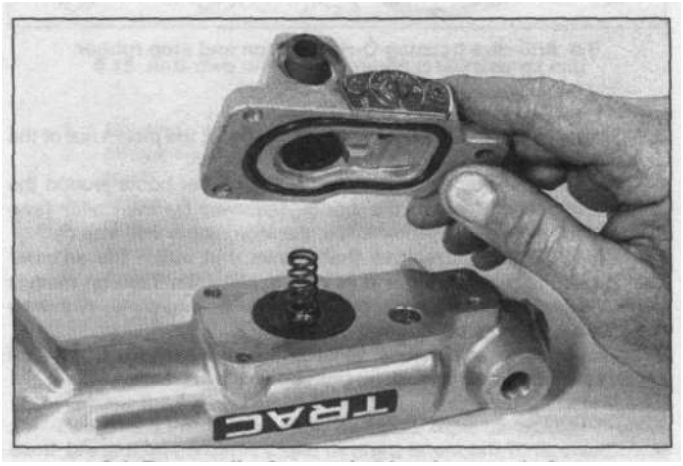
8.25 Use a length of tubing to tap the bushing into the slider



8.26 Cross-section of oil seal components in fork slider



8.31 Installing the damping adjuster rod on 1100 Sabres



9.4 Remove the four socket-head screws to free housing from slider

specified amount of ATF into the fork tube (see Specifications), noting that the amount differs for right and left forks on models with anti-dive.

29 On 1100 Sabre models a figure is given for fork oil level from the top of the fork tube. To check, hold the fork vertical and pass a length of welding rod or straight rule down through the inner tube to measure the oil level. Add or remove oil until the level is correct.

30 Install the fork spring in the same direction as noted on disassembly (on 1985 through 1988 700/750 Magna models its tapered end should face downwards, on 1100 Sabres the closely-wound coils should be at the bottom, on 700/750 Sabres, 1982 through 1984 700/750 Magnas and all 1100 Magnas the closely-would coils should be at the top). Install the spring seat and spacer into the fork tube.

31 Extend the fork fully and install the fork top bolt with a new O-ring. Use the bolt to compress the spring enough to start the bolt into its threads. On 1100 Sabre models, the shaped damping adjuster rod end must engage correctly with the cutout in the damper piston **(see illustration).**

32 Tighten the fork top bolt securely, leaving tightening to the specified torque until it is firmly clamped in the triple clamps.

33 Install the forks in the triple clamps (see Section 7). When fitting the plastic cap over the right fork top bolt on 1100 Sabre models, the cutouts on the inside of the cap must engage the tabs on the damping adjuster. When set in the No. 1 damping position, the lug on the fork cap bolt, punch mark on the damping adjuster and No. 1 on the cap should all be in alignment.

34 After installation pump the forks up and down to distribute the oil, check the anti-dive and damping adjuster settings and pressurize the forks with air (where applicable).

9 Anti-dive (TRAC) - removal and installation

1 The left fork on 1982 through 1986 models incorporates *a* Torque Reactive Anti-dive Control (TRAC) unit, which is designed to lessen front fork compression during braking.

2 If the forks are compressing excessively during braking, despite adjustments to the anti-dive device, or if fork oil is leaking from around the housing, the anti-dive assembly should be removed and serviced.

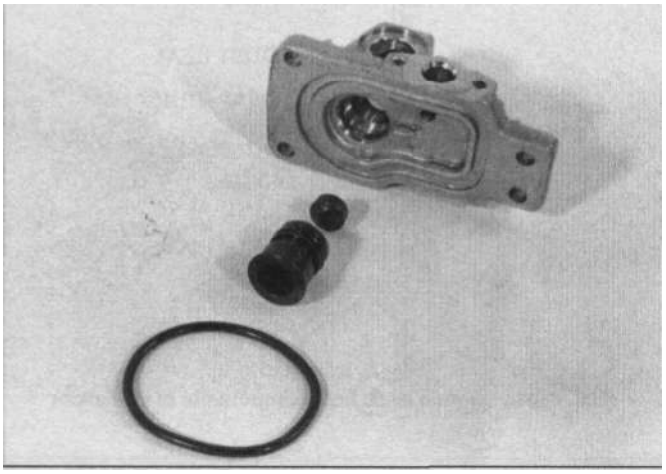
700/750 Sabres, 1100 Magnas and 1982 through 1984 700/750 Magnas

Refer to illustrations 9.4, 9.5, 9.6 and 9.12

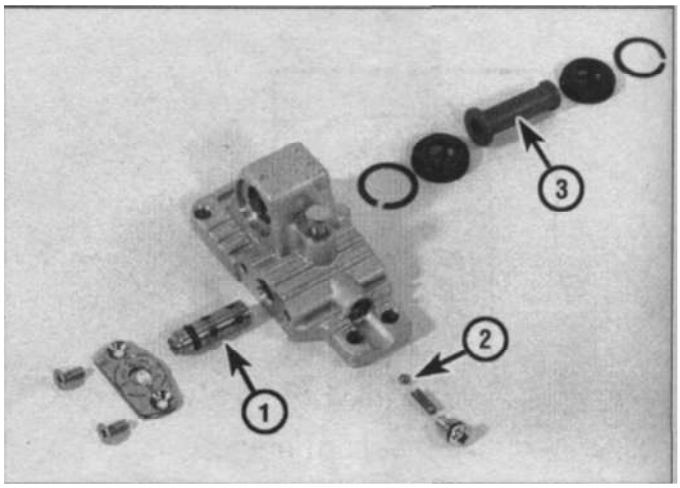
Removal

3 If the forks are on the motorcycle, first remove the left brake caliper and its bracket (see Chapter 7). For additional clearance, also disconnect the speed sensor (750 Sabres) or speedometer cable (all other models) and secure it out of the way.

4 Remove the four socket head screws and separate the anti-dive housing from the left fork **(see illustration).**



9.5 Anti-dive housing O-ring, piston and stop rubber



9.6 Anti-dive orifice valve (1), check valve (2) and pivot bolt collar (3)

5 Remove the spring and large O-ring, and pull the piston out of the housing **(see illustration).**
6 Remove the snap-rings that secure the rubber boots around the pivot bolt collar. Remove the boots, followed by the collar **(see illustration).** With the collar removed, the stop rubber will drop out.
7 On 1982 models remove the screws that retain the adjuster setting plate to the housing and lift off the plate. On 1983-on models remove the snap-ring to release the adjuster setting plate. Withdraw the orifice valve from the housing.
8 Finally, remove the check valve setting screw, valve spring and check ball from the bottom of the housing.

Inspection

9 Clean all of the metal parts in clean solvent and inspect them carefully for wear or damage. If there is deep scoring in the piston bore, replacement of the piston and housing will be necessary. Check the orifice to make sure it is not damaged or clogged. If compressed air is available, blow it out. Also use compressed air to blow out the passages in the housing.
10 The O-rings used on the piston, orifice and housing should all be replaced as a matter of course whenever they are removed.
11 Check the collar boots for hardening and damage. Replace them if necessary.

Installation

12 Installation is a reverse of the removal procedure, noting the following.

a) Coat the piston and all seals ith new fork oil (ATF).
b) Apply a thread locking compound to housing screw threads prior to installing them.
c) Apply silicon grease to the pivot collar prior to inserting it into place and ensure the boots are correctly installed ***(see illustration).***
d) Following reassembly, move the collar back and forth to check the stroke of the piston; it should have 2.5 mm (0.10 in) of movement.
e) Refill the fork with the correct amount and type of new fork oil.
f) Set the anti-dive adjuster to the preferred setting (see Section 14).

1100 Sabres and 1985/86 700 Magnas

Removal

Refer to illustration 9.15

13 If the forks are on the motorcycle, first remove the left brake caliper and its bracket (see Chapter 7). For additional clearance, also disconnect the speed sensor (Sabre) or speedometer cable (Magna) and secure it out of the way.
14 Have a drain tray on hand to catch the fork oil which will emerge, then remove the socket head screws and separate the anti-dive housing from the left fork. Allow the fork oil to drain into the drain tray**.** Recover the coil spring.
15 Remove the snap-ring from the piston collar and slip the collar out of the end of the piston. Remove the piston boot and withdraw the piston and its rubber washer from the inside of the housing **(see illustration).**
16 Unscrew the grub screw from the adjuster knob, and pull the knob off the orifice valve end. Remove the orifice valve from the fork slider.
17 Finally, remove the check valve setting screw, valve spring and check ball from the bottom of the fork slider.

Inspection

18 See Steps 9 and 10.

Installation

19 Installation is a reverse of the removal procedure, noting the following.

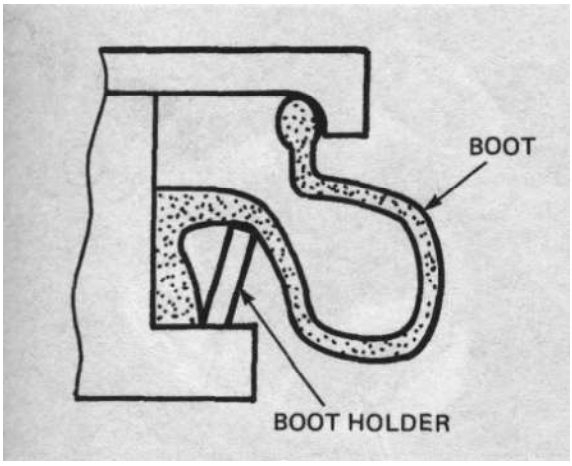
a) Coat the piston and all seals with new fork oil TF).
b) Apply a thread locking compound to the housing screw threads prior to installing them.
c) When the housing has been installed on the for slider, check that the piston is able to move in and out without binding.
d) Refill the fork with the correct amount and type of new fork oil.
e) Set the anti-dive adjuster to the preferred setting (see Section 14).

10 Steering stem - removal and installation

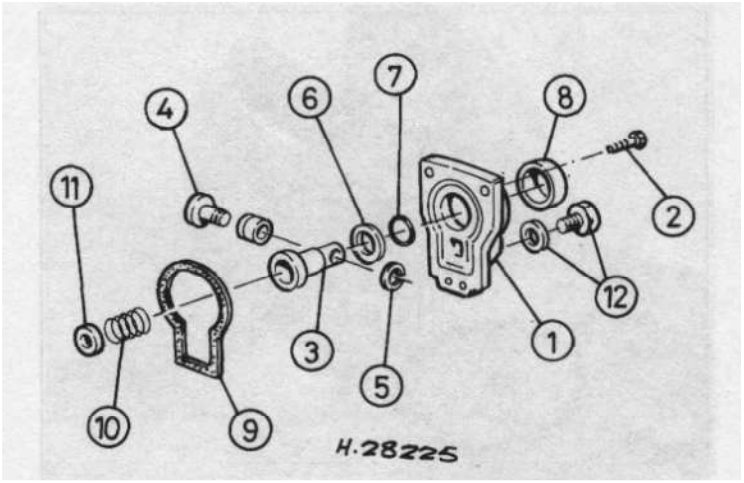
Removal

700/750 Sabre models

1 Remove the fuel tank (see Chapter 4)**.**
2 Remove the headlight and headlight housing (see Chapter 8).
3 Remove the instruments and, on early models, the odometer panel (see Chapter 8).
4 Trace and disconnect the front turn signal wires, then remove the two bolts which retain the headlight/turn signal mount bracket to the upper triple clamp.
5 Remove the handlebars and forks (see Sections 5 and 7), noting that there is no need to disconnect the hydraulic hoses or wiring, just position the handlebars away from the triple clamp.
6 Trace the wiring from the ignition (key) switch and disconnect it at the block connector. Remove the two bolts on the underside of the switch and withdraw the switch from the upper triple clamp.
7 Disconnect all wires from the horn terminals, then remove the two



9.12 **Install pivot collar boot and boot holder (snap-ring) as shown**



9.15 Anti-dive unit components (1100 Sabres and 1985/86 700 Magnas)

bolts which retain the braking system three-way union to the lower triple clamp. On 1982 and 1983 models, remove the turn signal angle sensor screws from the base of the steering stem and withdraw the sensor; disconnect the wire connectors and withdraw the wiring from the top of the stem. 8 Refer to Steps 53 through 56.

1982 through 1984 700/750 Magna models

9 Remove the main fuel tank, or if less than half full raise it on its support (see Chapter 4).
10 Remove the headlight and headlight housing (see Chapter 8).
11 Remove the instruments (see Chapter 8).
12 Remove the handlebars and forks (see Sections 5 and 7), noting that there is no need to disconnect the hydraulic hoses or wiring, just position the handlebars away from the triple clamp.
13 Trace and disconnect the wiring from the front turn signals. Remove the bolts which retain the headlamp brackets to the upper triple clamp and remove both brackets complete with the turn signals.
14 Trace the wiring from the ignition main (key) switch and disconnect it at the block connector. Remove the two bolts on the underside of the switch and withdraw the switch from the upper triple clamp.
15 Remove the trim panel from the front of the lower triple clamp, and disconnect all wiring from the horn terminals. Remove the two nuts on the underside of the lower triple clamp and lift the braking system three-way union and horn assembly off the triple clamp.
16 Refer to Steps 53 through 56.

1985 and 1986 700 Magna models

17 Remove the fuel tank (see Chapter 4).
18 Remove the headlight and headlight housing (see Chapter 8).
19 Detach the instruments from the upper triple clamp (see Chapter 8).
20 Remove the handlebars and forks (see Sections 5 and 7), noting that there is no need to disconnect the hydraulic hoses or wiring, just position the handlebars away from the triple clamp.
21 Remove the horns and the cover between them, which houses the electrical connectors for the ignition main (key) switch, right and left handlebar switches. Disconnect the wiring connectors, then detach the Honda trim panel from the front of the lower triple clamp. Remove the two nuts from the underside of the brake hose three-way union, then detach the union and electrical connector backplate from the triple clamp.
21 Trace and disconnect the wiring from the front turn signals. Remove the bolts which retain the headlamp brackets to the upper triple clamp and remove both brackets complete with the turn signals.
22 Remove the two bolts on the underside of the ignition main (key) switch and withdraw the switch from the upper triple clamp.
23 Refer to Steps 53 through 56.

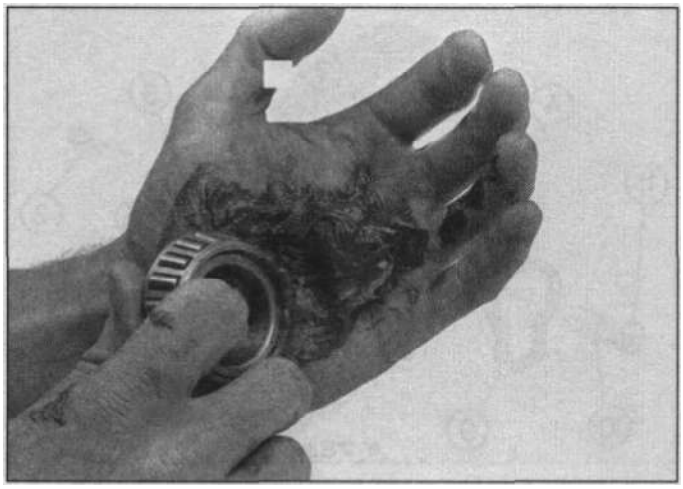
1	*Housing*	*7*	*O-ring*
2	*Socket-head* screws *(4 off)*	*8*	*Boot*
		9	*O-ring*
3	*Piston*	*10*	*Spring*
4	*Collar*	*11*	*Seal*
5	*Snap-ring*	*12*	*Oil drain plug and*
6	*Rubber washer*		*washer*

1987 and 1988 700/750 Magna models

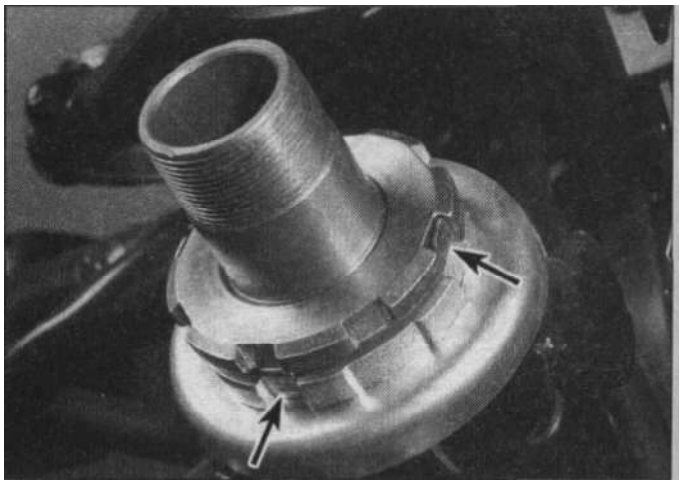
24 Remove the fuel tank (see Chapter 4).
25 Remove the headlight and headlight housing (see Chapter 8).
26 Detach the instruments from the upper triple clamp (see Chapter 8). Pull the speedometer cable through the hole in the lower triple clamp.
27 Remove the handlebars and forks (see Sections 5 and 7). Note that there is no need to disconnect the wiring or the clutch hydraulic hose; just position the handlebars away from the triple clamp. The front brake hydraulic hose passes through a hole in the lower triple clamp, and must be disconnected from the master cylinder and the hose passed through the triple clamp and released from its guide (see Chapter 7 for hose disconnection).
28 Trace and disconnect the front turn signal wires and remove the bolt which retains each light unit to the upper triple clamp.
29 Refer to Steps 53 through 56.

1100 Sabre models

30 Remove the fuel tank (see Chapter 4).
31 Remove the bolt on each side of the fusebox cover (just above the horns) and pull the cover forward. Disconnect the wiring from the horns and remove their mounting bolts to release them from the fusebox cover.
32 Remove the two screws from the front face of the fusebox, hinge the fuse mounting forward and disconnect the wiring connectors **from** the rear of the fusebox. Disconnect all wiring from the connector block frame and disconnect the connectors. Remove the two bolts which retain the connector mounting bracket and braking system three-way joint to the lower triple clamp.
33 Remove the headlight and headlight housing (see Chapter 8).
34 Detach the instruments from the upper triple clamp (see Chapter 8).
35 Remove the handlebars and forks (see Sections 5 and 7), noting that there is no need to disconnect the hydraulic hoses or wiring, just position the handlebars away from the triple clamp.
36 Remove the two screws which retain the fork air joint unions to the upper triple clamp.
37 Remove its screws and detach the turn signal system angle sensor and cancel unit from the base of the steering stem; disconnect



10.57 Work grease fully into the rollers or balls



10.61 The steering stem nut lockwasher tabs should be engaged in the slots of the locknut and adjuster nut (arrows)

the cancel unit wires and withdraw the wiring from the top of the stem.
38 Trace and disconnect the wiring from the front turn signals. Remove the bolts which retain the headlamp brackets to the upper triple clamp and remove both brackets complete with the turn signals.
39 Remove the two bolts on the underside of the ignition main (key) switch and withdraw the switch from the upper triple clamp.
40 Refer to Steps 53 through 56.

1100 Magna models

41 Remove the main fuel tank, or if less than half full raise it on its support (see Chapter 4).
42 Remove the single screw from the fusebox cover and remove the cover. Detach the wiring from the back of the horns and remove the central mounting bolt bracket to detach the horn assembly from the motorcycle.
43 Remove the wiring connector box cover, ease the connector holder frame out of position and disconnect all wiring connectors. Remove the two bolts from the back of the housing to release the housing from its mounting bracket and thread the wire connector ends out of the housing to free it.
44 Remove the headlight and headlight housing (see Chapter 8).
45 Detach the instruments from the upper triple clamp (see Chapter 8).
46 Remove the handlebars and forks (see Sections 5 and 7), noting that there is no need to disconnect the hydraulic hoses or wiring, just position the handlebars away from the triple clamp.
47 Remove the two screws which retain the fork air joint unions to the upper triple clamp.
48 Remove its screws and detach the turn signal system angle sensor from the base of the steering stem. Disconnect the wiring and withdraw it from the top of the stem. On 1985 and 1986 models, disconnect the wiring and withdraw the cancel unit.
49 Remove the nuts which retain the brake hose three-way union to the front of the lower triple clamp. Detach the union and the electrical connector box mounting bracket.
50 Trace and disconnect the wiring from the front turn signals. Remove the bolts which retain the headlamp brackets to the upper triple clamp and remove both brackets complete with the turn signals.
51 Remove the two bolts on the underside of the ignition main (key) switch and withdraw the switch from the upper triple clamp.
52 Refer to Steps 53 through 56.

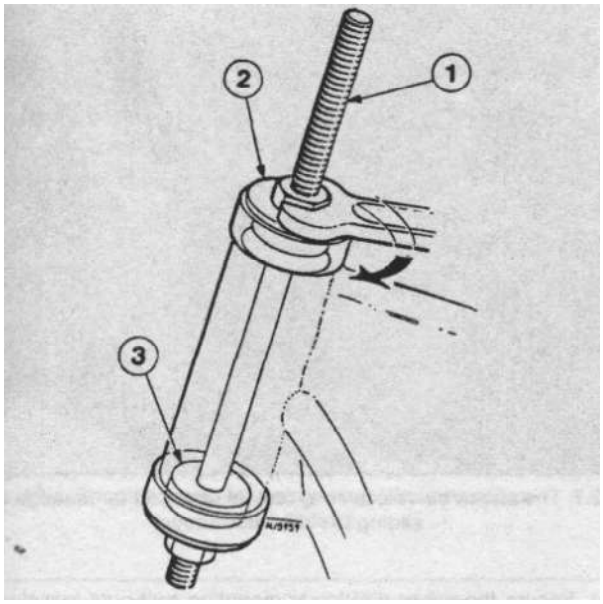
All models

53 Remove the steering stem nut and, where fitted, the plain washer. Also remove the steering stem pinch bolt on 1100 models. Lift off the upper triple clamp.
54 Two slotted nuts are used to secure the stem to the frame head. The bottom one is the adjuster nut for setting bearing preload. The top nut tightens down against a lockwasher to secure the bottom nut.
55 Knock the lockwasher tabs out of their slots in the upper nut, then remove the nut, lockwasher and lower nut. Lift the dust cover off the top of the steering stem and lift the top bearing inner race out, then lower the triple clamp and steering stem out of the frame. The top bearing assembly will remain in the frame, while the bottom bearing roller cage will come out with the stem.
56 Remove all traces of old grease from the bearings and races and check them for wear or damage as described in Section 11. The grease retainer and lower bearing race can be slid off the steering stem. Note: Do *not attempt to remove the outer races from the frame or the lower inner race from the steering stem unless they are to be replaced.*

Installation

Refer to illustrations 10.57 and 10.61

57 Pack the bearings with lithium-based grease by forcing it past the rollers. This is done by pressing the bearing against some fresh grease in the palm of the hand. In a scooping-type motion, continue to press the grease into the bearing until it comes out uniformly around the rollers and cage **(see illustration).** Coat the outer races with grease.
58 Carefully lift the steering stem into position and fit the-upper bearing and inner race. Apply grease to the underside of the dust seal and fit it to the steering stem. Install the slotted adjuster nut and tighten it to the specified torque using the Honda tool (Part No. 07716-0020400 for all 700/750 Sabre models and 1982/83 750 Magna models, or Part No. 07916-3710100 for 1984-on 700/750 Magna models and all 1100 models). Turn the steering stem lock-to-lock five times to seat the bearings. Repeat the tightening and seating sequence. **Note:** *It is important to check the feel of the steering afterwards as described below; if it is too tight re-adjust the bearings as described below.*
59 If the service tool is not available, tighten the adjuster nut hard using a conventional C-wrench to preload the bearings then adjust as follows**.**
60 Loosen the adjuster nut slightly until pressure is just released, then turn it slowly clockwise until resistance is just evident. The object is to set the adjuster nut so that the bearings are under a very light loading, just enough to remove any freeplay**. Caution:** *Take great* care *not to apply excessive pressure because this will cause premature failure of the bearings.*
61 Install a new tab lock washer with two opposite tabs turned down in the adjuster nut slots. Holding the adjuster nut still, hand tighten the top locknut down firmly against it, then tighten it more, but only until the washer tabs align with the slots in the locknut (no more than 90°). If the tabs don't line up, remove the top nut, turn it over and reinstall it.



11.6 Drawbolt arrangement for installing steering head bearing outer races

1 Long bolt or threaded bar
2 Thick washer
3 Guide for lower outer race

Once the tabs are lined up and the nut is tight, bend two opposite tabs up into the locknut slots **(see illustration).**

62 Place the upper triple clamp into position and install the steering stem washer (where fitted) and nut loosely**.** Temporarily fit the fork legs to align the triple clamps, then tighten the steering stem top nut, and pinch bolt on 1100 models, to the specified torque.

63 Installation is basically the reverse of the removal procedure with the following notes:

a) Do not tighten the steering stem nut until after the for tubes have been inserted through both triple clamps. This will ensure that they are properly aligned.
b) Be sure to route all cables and wiring harnesses in their original positions. In particular on 1987 and 1988 700/750 Magna models, the front bra e hydraulic hose and speedometer cable must pass through the holes in the lower triple clamp.
c) Refer to the appropriate Sections or Chapters for reinstallation of the various components. Refer to the appropriate wiring diagram at the end of this manual if in doubt about reconnecting any wiring.

64 Check that the steering head bearings are correctly adjusted as soon as the forks and front wheel are installed (see Chapter 1).

65 On 1987 and 1988 700/750 Magna models top up and bleed the front brake hydraulic system (see Chapter 7). On all models, check the operation of the brakes, suspension and controls before riding the machine.

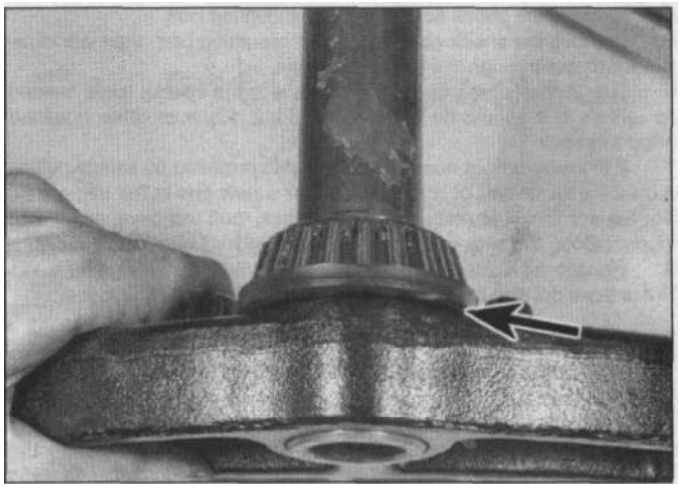
11 Steering head bearings - inspection and replacement

Inspection

1 Remove the steering stem as described in Section 10.

2 Remove all traces of old grease from the bearings and races and check them for wear or damage. The bearings will either be of the caged ball or caged tapered roller type, depending on the model.

3 The ball or roller bearing tracks of the races should be polished and free from indentations. Inspect the ball or roller bearings for signs of wear, damage or discoloration, and examine their retainer cage for signs of cracks or splits. If there are signs of wear on any of the above components both upper and lower bearing assemblies must be replaced as a set**.**



11.7 Work the lower bearing race and dust seal (arrow) off the stem if it needs replacing

Replacement

Refer to illustrations 11.6 and 11.7

4 The outer races are an interference fit in the steering head and can be tapped from position with a suitable drift. Tap firmly and evenly around each race to ensure that it is driven out squarely**.** It may prove advantageous to curve the end of the drift slightly to improve access.

5 Alternatively, the races can be removed using a slide-hammer type bearing extractor; these can often be rented from tool shops.

6 The new races can be pressed into the head using a drawbolt arrangement, or by using a large diameter tubular drift which bears only on the outer edge of the race **(see illustration).** Ensure that the drawbolt washer or drift (as applicable) bears only on the outer edge of the race and does not contact the race bearing surface.

7 To remove the lower bearing from the steering stem, use two screwdrivers placed on opposite sides of the race to work it free **(see illustration).**

8 With the lower bearing removed, lift off the dust seal. Inspect the seal for wear or damage and replace it if necessary**.**

9 Install the dust seal and slide on the new lower bearing. A length of tubing with an internal diameter slightly larger than the steering stem will be needed to tap the new race into position. Ensure that the drift bears only on the inner edge of the race and does not contact the bearing surface.

10 Slide the grease retainer onto the steering stem and install the steering stem as described in Section 10.

12 Rear shock absorber(s) - removal and installation

700/750 Sabre models

Removal

Refer to illustration 12.7

1 Place the motorcycle on its center stand.

2 Remove the seat and both side covers. Disconnect the battery (negative lead first). The shock absorber is removed from the top of the frame and removal of the toolbox and certain electrical components is necessary to provide access.

3 Disconnect and remove the regulator/rectifier unit, disconnect the fusebox and turn signal cancel unit wiring and pull off the coolant reservoir tank overflow/breather tube. Remove the single mounting screw from inside the toolbox, then slide the toolbox out together with the fusebox and cancel unit.

4 Remove the shock absorber lower mounting bolt.
5 Remove the shock absorber upper mounting bolt, then withdraw the shock out through the top of the frame.
6 Due to the complexity of the shock and the special tools needed to service it, it should be taken to a Honda dealer or other qualified shop for repair.
7 If the rubber boot needs replacing, it is removed by simply pulling it over the lower part of the shock. Install a new one in the same way. To inspect for oil leakage from the shock, pull the boot down and inspect along the seal, which will now be exposed **(see illustration).**
8 Inspect the bushings in the upper and lower mountings for wear. Press them out and install new ones using a drawbolt tool.

Installation

9 Installation is a reverse of the removal procedure, noting the following:

a) Apply molybdenum-disulfide grease to the bushings at both the upper and lower mounting positions. Install the collar in the top mounting bushing and fit the dust seal and washer to each side of it.
b) Secure the upper and lower mounting bolt nuts loosely, then tighten them to the specified torque when the suspension is in the normal working position.
c) Connect the negative lead last when reconnecting the battery.
d) Check the shock air pressure (see Section 14).

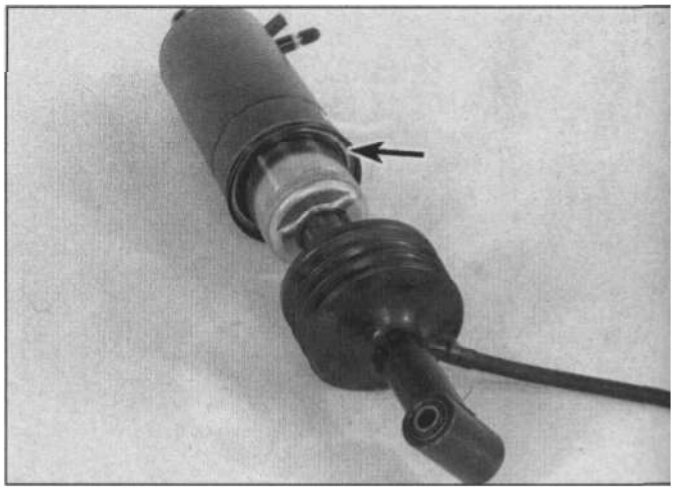
1100 Sabre models

Removal

10 Place the motorcycle on its main stand.
11 Remove the seat and both side covers. Disconnect the battery (negative lead first) and remove it from its case. The shock absorber is removed from the top of the frame and removal of the toolbox and certain electrical components is necessary to provide access.
12 Disconnect the wiring from the spark units, stop and taillight sensor, regulator/rectifier unit, fuel pump and starter relay, then remove these components from the motorcycle (see the appropriate sections of Chapters 4, 5 and 8 for details). Disconnect the alternator wiring at the block connector.
13 Unlock the toolbox cover to free the shock air valve from its clamp. Remove its mounting screws and remove the toolbox/battery housing.
14 Disconnect the shock damping adjuster control knob from its frame mounting lug by loosening the nut on the rear of the knob, then disconnect the damping adjuster cable from the top of the shock; remove the cotter pin to free the cable end, then loosen the locknut to detach the cable from its bracket.
15 Remove the shock absorber lower mounting bolt.
16 Remove the shock absorber upper mounting bolt, then withdraw the shock out through the top of the frame.
17 All shock absorber components are available separately. However, disassembly requires the use of a suitable spring compressor and certain Honda special tools. It is therefore recommended that the unit be taken to a Honda dealer who will have the necessary service tools to dismantle it.
18 If the rubber boot needs replacing, release its wire retaining clip and pull it off the lower part of the shock. Install a new one in the same way. To inspect for oil leakage from the shock, pull the boot down and inspect along the seal, which will now be exposed **(see illustration 12.7).**
19 Inspect the bushings in the upper mounting for wear. Press the old bushing out and install a new one using a drawbolt tool. The lower bearing is part of the suspension linkage and can be inspected as described in the next Section.

Installation

20 Installation is a reverse of the removal procedure, noting the following: *a) Apply molybdenum-disulfide grease to the upper mounting*
bushing. Install the collar and fit the dust seal and washer to each side of it.



12.7 The shock oil seal (arrow) can be checked for leakage after sliding the dust boot down

b) Secure the upper and lower mounting bolt nuts loosely, then tighten them to the specified torque when the suspension is in the normal working position.
c) Connect the negative lead last when reconnecting the battery.
d) Check the shock air pressure and set the damping adjustment (see Section 14).

Magna models

Note: *Remove only one shock at a time so that the rear of the motorcycle does not drop. If both shock absorbers need to be removed at the same time, the rear of the machine can be kept in position by placing a block of wood between the top of the rear tire and the inside of the rear fender.*

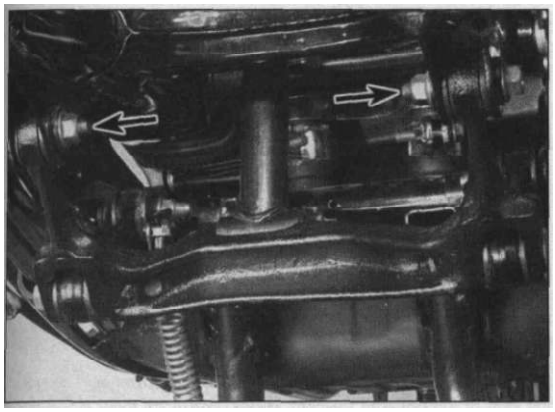
Removal

21 Place the motorcycle on its center stand. On models without a center stand, place a jack with wood block under the crankcase to raise the rear wheel off the ground; ensure that the motorcycle is securely supported.
22 Adjust shock preload to its softest position (see Section 14).
23 To gain access to the upper mounting on 1100 models, remove the seat (see Section 19) and the grab rail. If removing the left shock on 1100 models, remove the exhaust muffler (silencer) from the left side (see Chapter 4).
24 On later 700/750 models pry the cap off the upper mounting nut. On all models, remove the upper mounting nut and lower mounting nut or bolt.
25 Remove the shock absorber.
26 All shock absorber components are available separately. However, disassembly requires the use of a suitable spring compressor. It is therefore recommended that the unit be taken to a Honda dealer who will have the necessary service tools to dismantle it. A figure is given in the Specifications section of this Chapter for spring free length service limit. **Note:** *Shock absorbers should be replaced as a pair, otherwise uneven handling will result.*
27 Inspect the bushings in the mounting eyes for wear. Press the old bushings out and install new ones using a drawbolt tool.

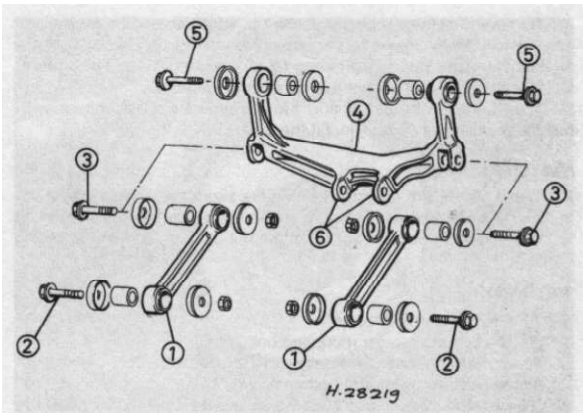
Installation

28 Installation of the shock absorber is the reverse of removal, noting the following:

a) Secure the shock absorber mounting nuts/bolts finger-tight on installation, then tighten them to the specified torque when the suspension is in its normal position.
b) Adjust the shock absorber spring preload to your preferred level (see Section 14).



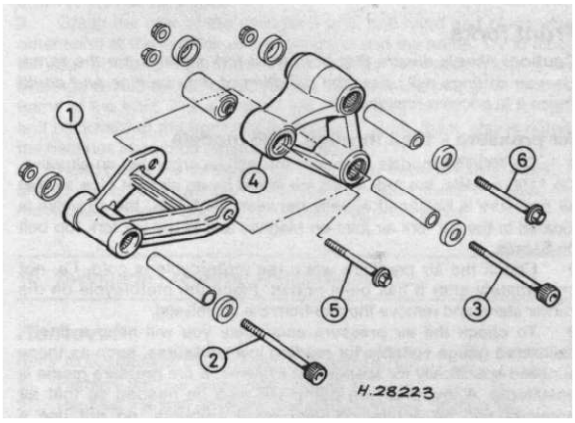
13.4 Shock linkage-to-swingarm bolts (arrows) on 700/750 Sabres



13.15a Shock absorber linkage (700/750 Sabres)

1 Shock links
2 Shock link-to-frame bolts
3 Shock link-to-shock arm bolts
4 Shock arm
5 Shock arm-to-swingarm bolts
6 Shock absorber mounting

13.15b Shock absorber linkage (1100 Sabres)



1 Shock link
2 Shock link-to-frame bolt
3 Shock link-to-shock arm bolt
4 Shock arm
5 Shoc arm-to-shock absorber bolt
6 Shock arm-to-swingarm bolt

13 Rear shock absorber linkage (Sabre models) - removal, inspection and installation

Removal

700/750 models

Refer to *illustration 13.4*

1 Place the motorcycle on its center stand.
2 Remove the mufflers (silencers) to provide improved access to the linkage through-bolts (see Chapter 4).
3 Remove the shock absorber lower mounting bolt.
4 Remove the bolts that retain the shock linkage to the swingarm (see **illustration).**
5 Remove the bolts that retain the shock linkage to the frame and lift out the linkage.
6 Remove the two pivot bolts to separate the shock arm from the shock link.

1100 models

7 Place the motorcycle on its center stand.
8 Remove the mufflers (silencers) to provide improved access to the linkage through-bolts (see Chapter 4).
9 Remove the shock absorber lower mounting bolt.
10 Remove the shock arm-to-swingarm bolt.
11 Remove the shock link-to-frame bolt and lower the linkage from the motorcycle.
12 Remove the pivot bolt to separate the shock link from the shock arm.

Inspection

Refer to illustrations 13.15a and 13.15b

13 Thoroughly clean all components, removing all traces of dirt, corrosion and grease.
14 Inspect all components closely, looking for obvious signs of wear such as heavy scoring, or for damage such as cracks or distortion.
15 Pull the dust caps off to reveal the bearing or bushings in each pivot. Depending on the model, either plain bushings or needle roller bearings and inner sleeves will be fitted **(see illustrations).** On 1100 models, the shock absorber lower pivot on the shock arm is of the bonded-rubber type.
16 If the bearings or bushings are worn, check first with a Honda dealer whether they are available separately from the shock link or shock arm. Removal and installation should be done using a drawbolt tool to prevent damage to the housing and new bearing/bushing.
17 Obtain a long bolt or a length of threaded rod from a local engineering works or some other supplier. The bolt or rod should be about one inch longer than the combined length of either link, and one bearing. Also required are suitable nuts and two large and robust washers having a larger outside diameter than the bearing housing. In the case of the threaded rod, fit one nut to one end of the rod and stake it in place for convenience.
18 Fit one of the washers over the bolt or rod so that it rests against the head, then pass the assembly through the relevant

projecting end place the bearing/bushing, which should be greased to ease installation, followed by the remaining washer and nut.
19 Holding the bearing/bushing to ensure that it is kept square, slowly tighten the nut so that it is drawn into its bore.
20 Lubricate all bearings and inner sleeves and bushings with molybdenum-disulfide grease. Fit the dust caps.

Installation

21 If the shock arm and shock link were separated, install their pivot bolt(s), but secure only finger-tight at this stage. Couple the linkage up to the frame and swingarm, then tighten the pivot bolts in the following order:

700/750 models

Shock link-to-frame bolts Shock absorber lower mounting bolt Shock link-to-shock arm bolts Shock arm-to-swingarm bolts

1100 models

Shock link-to-frame bolt
Shock arm-to-swingarm bolt
Shock link-to-shock arm bolt
Shock absorber lower mounting bolt

22 Install all other components in a reverse of the removal procedure and check the operation of the rear suspension before riding the motorcycle.

14 Suspension - adjustments *Front forks*

Caution: *Always ensure that both front fork settings are the same. Uneven settings will upset the handling of the machine and could cause it to become unstable.*

Air pressure - 1982 through 1986 models

1 On 700/750 models each fork top bolt incorporates an air valve. On 1100 models, the fork tubes are linked by an air joint pipe so that air pressure is balanced equally between each fork; the air valve is located in the left fork air joint on Magnas and in the left fork top bolt on Sabres.
2 Check the air pressure when the motorcycle is cold, i.e. not immediately after it has been ridden. Place the motorcycle on the center stand and remove the cap from the air valve(s).
3 To check the air pressure accurately you will need a finely-calibrated gauge suitable for reading low pressures, such as those supplied specifically for suspension systems; a tire pressure gauge is unsuitable. A low pressure pump will also be needed so that air pressure can be applied in very small amounts; do not use a compressor-powered air line because there is a risk of exceeding the maximum safe pressure and damaging the fork seals.
4 Set the pressure within the specified range (see Specifications), noting that on 700/750 models the pressure must be identical in each fork otherwise uneven handling will result.
5 Install the valve cap when adjustment is complete.

Rebound damping - 1100 Sabre only

6 Rebound damping is controlled by a knob at the top of the right fork which is linked to the fork damper piston by a slim rod. Three damping positions are available.
7 Perform damping adjustment after checking air pressure. The current setting is denoted by the number of the knob which aligns with the lug on the fork top bolt. Honda describes position 1 as being suitable for general or around town riding, position 2 for highway or winding road riding, and position 3 for rough road riding. Rotate the adjuster to make adjustment, aligning the selected position with the top bolt lug.

Anti-dive (TRAC) setting - 1982 through 1986 models

8 Anti-dive force is adjusted by the slotted head adjuster set in the side of the anti-dive housing (700/750 Sabres, 1100 Magnas and 1982 through 1984 700/750 Magnas) or by the knob on the front of the fork slider (1100 Sabres and 1985/86 700 Magnas).
9 Four settings are available. Honda describes position 1 as giving light anti-dive, position 2 medium, position 3 hard, and position 4 maximum anti-dive. Rotate the adjuster to make the adjustment, ensuring the chosen position aligns exactly with the index mark.

Rear shock absorber

Spring preload - all Magna models

10 Adjust using the hooked C-wrench supplied in the motorcycle's tool kit. The shocks have five preload positions, I, II, III, IV, V. Position is for light loading, whereas spring preload is increased in stages from 11 through V.
11 Hook the wrench into the holes in the spring lower seat and rotate the seat to the required position. **Note:** *Always set each shock to the same position.*

Rebound and compression damping - 1100 Magna models

12 Adjust rebound damping by rotating the stepped wheel at the top of each unit to one of the four positions. Two compression damping positions are available, adjusted via the small knob just below the spring lower seat.
13 In each case damping is increased the higher the number selected. It is essential that each shock is set to the same positions and that the rebound and compression positions suit the load carried and riding style (see below).

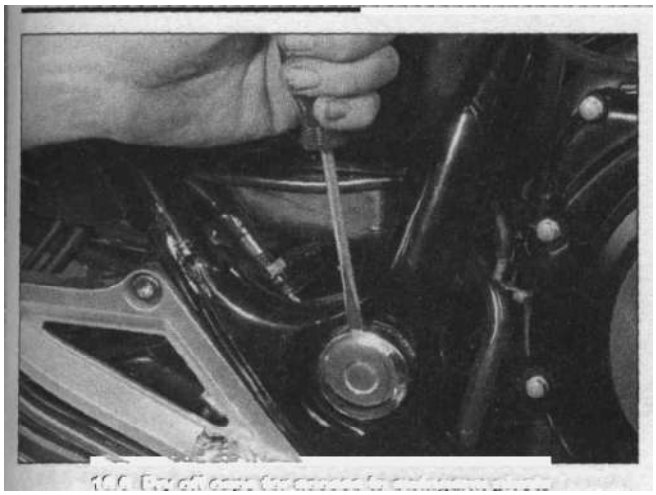
Rebound	Compression	Load/riding style
1	1	Solo/ordinary road use
2	1	Solo/highway or winding road use
3	1	Solo/rough road use
2	2	Solo or pillion/ordinary road use
3	2	Solo with pillion or load/highway or winding road use
4	2	Solo with pillion or load/rough road use

Air pressure - Sabre models

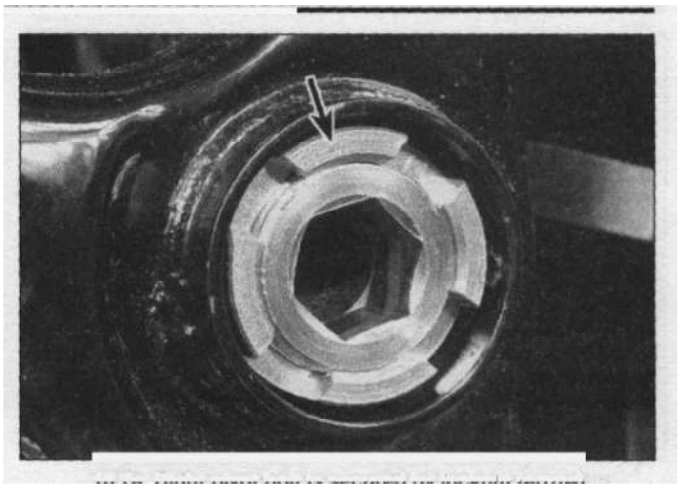
14 On 700/750 models remove the seat to gain access to the air valve set in the top of the shock body. On 1100 models, the shock body is linked to a remote air valve by a short hose; the air valye is clamped to the toolbox cover under the right side cover.
15 Remove the cap from the air valve and check the pressure. Note; *The shock must be cold for this check, i.e. do not check after the motorcycle has just been ridden.*
16 Adjust the air pressure within the range given in the Specifications section of this Chapter, noting that air pressure should be dependent on damping setting and load carried (see Step 19).

Rebound damping - Sabre models

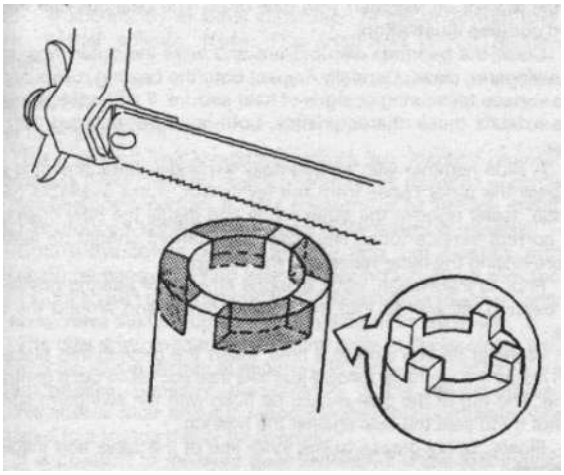
17 On 700/750 models remove the seat to gain access to the damping adjuster lever. It is situated on the top of the shock body, just above the air valve. Position 1 is with the lever pushed fully in, position 2 is out to the first notch, and position 3 out a further notch.
18 On 1100 models the rebound damping adjuster knob is situated at the top of the frame, under the right side cover. A short cable links the control knob to the top of the shock absorber.
19 Three settings are provided; Honda describes position 1 as being suitable for general or around town riding, position 2 for highway or winding road riding, and position 3 for rough road riding. The damping setting should be associated with rider load and shock air pressure, i.e. position 1 would suit rider-only load and no air pressure or low air pressure, whereas position 3 would suit maximum load and high or maximum air pressure.



16.6 Pry off caps for access to swingarm pivots

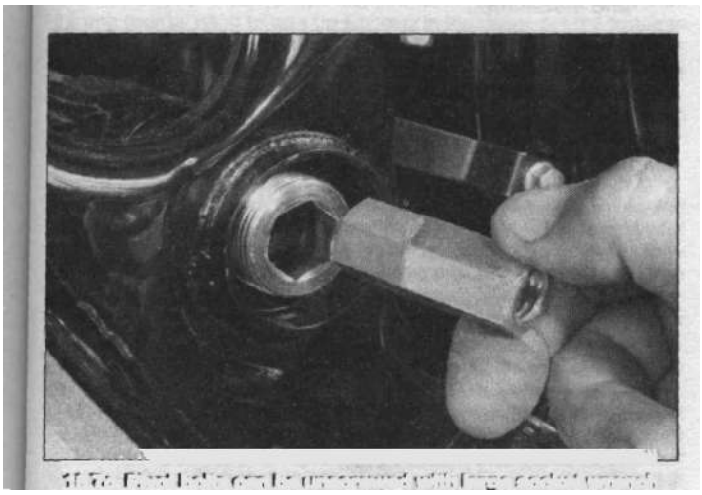


16.7a Right pivot bolt is secured by locknut (arrow)



16.7b A tool can be fabricated from a piece of tubing to engage slots of the locknut; be sure it's strong enough for the specified torque

16.7c Pivot bolts can be unscrewed with large socket wrench (Alien key) or hexagon adapter



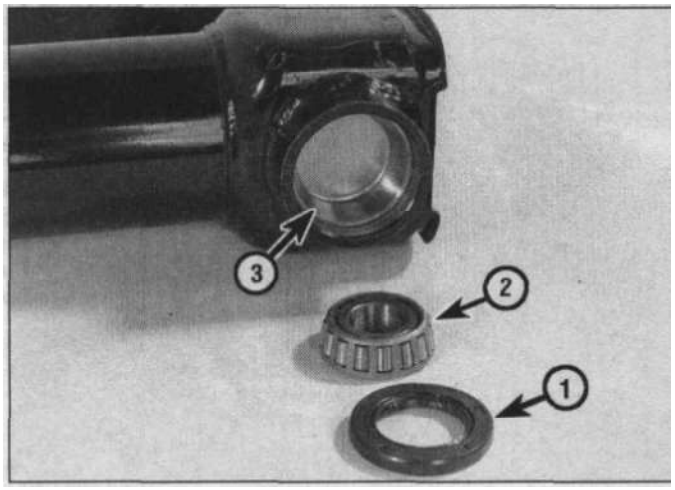
15 Swingarm bearings - check

1 Remove the rear wheel (see Chapter 7).
2 On Magna models remove both shock absorbers (see Section 12). On Sabre models remove the shock linkage-to-swingarm bolt(s). If the mufflers (silencers) do not leave enough clearance to remove these bolts, remove the lower shock absorber bolt and pivot the swingarm down to provide clearance.
3 Grasp the rear of the swingarm with one hand and place your other hand at the junction of the swingarm and the frame. Try to move the rear of the swingarm from side-to-side. Any wear (play) in the bearings should be felt as movement between the swingarm and the frame at the front. The swingarm will actually be felt to move forward and backward at the front (not from side-to-side). If any play is noted, the bearings should be replaced (see Section 17).
4 Next, move the swingarm up and down through its full travel. It should move freely, without any binding or rough spots. If it does not move freely, refer to Section 17 for servicing procedures.

16 Swingarm - removal and installation

Removal

Refer to illustrations 16.6, 16.7a, 16.7b and 16.7c
1 Remove the rear wheel (see Chapter 7).
2 Remove the final drive unit and driveshaft (see Section 18).
3 On Magnas, remove the shock absorber lower mounting nut/bolt on each side (see Section 12).
4 On Sabres, remove the shock absorber lower bolt. Then remove the bolt(s) that retain the shock linkage to the swingarm and lower the linkage.
5 Detach the brake backplate (early 700/750 models) or torque arm (other models) from the swingarm.
6 Pry off the swingarm pivot caps on both sides **(see illustration).**
7 Remove the pivot bolt locknut on the right side, using the Honda service tool (Part No. 07908-4690001) or fabricate a tool to fit the nut slots from a piece of tubing **(see illustrations).** Use of the service tool is advised because it provides a means of securing the locknut to the correct torque on installation.
8 Once the locknut is removed, use a socket wrench to remove first the right and then the left pivot bolts.
9 Lift the swingarm out and remove the rubber boot from its front.
Note: *If there is insufficient clearance on Sabre models to remove the swingarm, remove the upper shock absorber bolt and have an assistant raise the shock and hold it tightly against its frame bracket. This should*



17.5 Swingarm bearings

1 Dust seal
2 Bearing inner race
3 Bearing outer race

provide enough clearance to carefully remove the swingarm between the lower part of the shock and the center stand.

10 Refer to the following Section for bearing replacement.

Installation

11 Ensure the boot is in position on the front of the swingarm (on 1100 models, its tab with the UP marking must be positioned accordingly). Position the swingarm in the frame and install both pivot bolts loosely. Tighten the left pivot bolt to its specified torque.

12 Tighten the right pivot bolt to its specified torque, then loosen it and retighten it to its specified torque. Next, move the swingarm up and down several times and recheck that the right pivot bolt is still tightened to its proper torque value.

13 Install the right pivot bolt locknut, tightening it finger-tight. Install the Honda service tool specified for removal of the nut, hold the pivot bolt in position with the socket wrench (Alien key) and tighten the locknut to the specified torque using a torque wrench on the service tool handle. **Note:** *It is important not to disturb the pivot bolt position while the locknut is tightened.*

14 Install the remaining components in a reverse of the dismantling procedure, taking note of the torque settings in this Chapter and Chapter 7. On 1100 models ensure that the brake hose is well secured with the clips on the swingarm.

15 Check the operation of the rear suspension before riding the motorcycle.

17 Swingarm - inspection and bearing replacement

Inspection

1 Thoroughly clean all components, removing all traces of dirt, corrosion and grease.

2 Inspect all components closely, looking for obvious signs of wear such as heavy scoring, and cracks or distortion due to accident damage. Any damaged or worn component must be replaced.

3 If the painted finish of the swingarm has deteriorated it is worth taking the opportunity to repaint the affected area, ensuring that the surface is correctly prepared beforehand.

Bearing replacement

Refer to illustration 17.5

4 With the seals still in place, gently spin the bearings with your finger, checking for any roughness or noise. These signs indicate the bearings need to be replaced with new ones.

5 Pry the seals out from both ends. Once removed, these seals should always be replaced with new ones. The bearings can then be lifted out **(see illustration).**

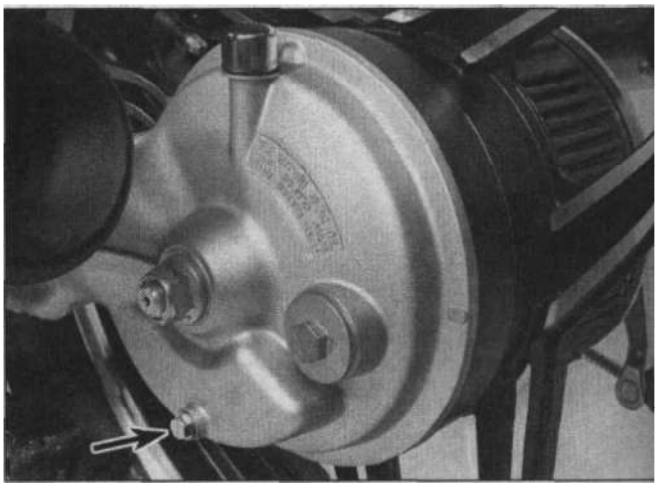
6 Clean the bearings with solvent and wipe the outer race, still in the swingarm, clean. Carefully inspect both the bearing rollers and the race surface for scoring or signs of heat seizure. If either the bearing or race exhibits these characteristics, both must be replaced with new ones.

7 A slide hammer with an internally expanding attachment is need to draw the outer races from the swingarm. If not available have a Honda dealer remove the outer races and install the new ones using the correct service tools. New grease retainers should be installed before driving the outer races into the swingarm.

8 Prior to installation, pack a liberal amount of bearing grease into the bearing, as well as into the bearing cavity and around the outer race.

9 Working on one side at a time, insert the bearing into place and then install the new seal using a suitable size socket to tap it gently into place. The top of the seal should be flush with the swingarm surface. Do not try to seat the seal against the bearing.

10 Finally, apply grease to the inner lips of the seals and install the swingarm.



18.3 Final drive unit oil drain plug (arrow)

18 Final drive unit and driveshaft - removal, inspection and installation

Removal

Refer to illustrations 18.3 and 18.5

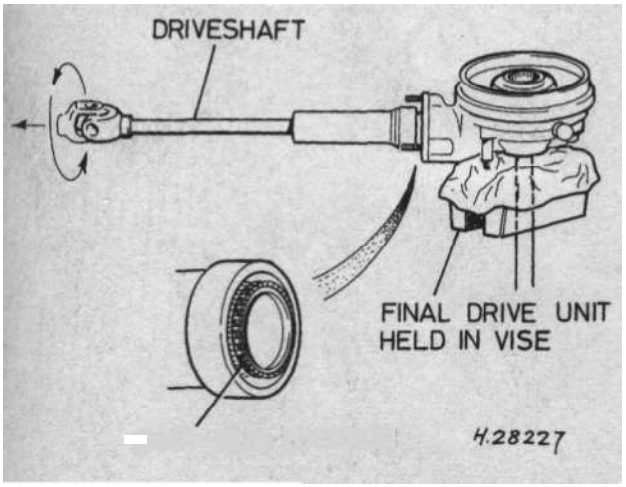
1 Remove the rear wheel (see Chapter 7).

2 On Magna models, remove the left shock absorber (see Section 12).

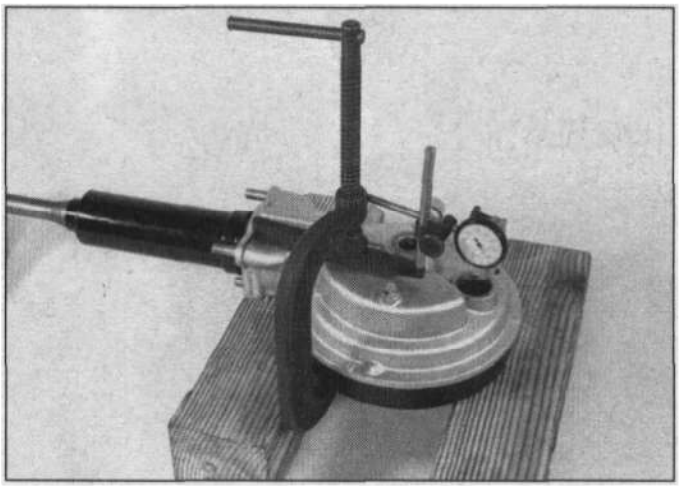
3 Remove the final drive unit drain plug and allow the oil to drain into a suitable container **(see illustration).**

4 Position a drain tray below the final drive-to-swingarm joint to catch any oil that escapes from the driveshaft damper case. Remove the three nuts that retain the final drive unit to the swingarm, then carefully withdraw the unit and driveshaft from the swingarm. This is made easier by supporting the swingarm at an angle parallel with the ground.

5 If the driveshaft remains in the swingarm when the final drive unit is removed, simply pull it out. **Note:** *A snap-ring was fitted to the damper cam splines at the manufacturing stage to aid production, and if not already removed, will prevent separation of the final drive unit and driveshaft by normal means.* If this occurs, install the rear axle through the final drive unit and mount the axle in a vise equipped with wood or soft jaws so that the drive unit uppermost. With the drive unit securely held, revolve the driveshaft in a circular motion while pulling it off the drive unit **(see illustration).** This action will serve to compress the



18.5 Driveshaft disconnection from final drive unit may require special technique if snap-ring is fitted to shaft end



18.10 Final drive unit ring gear backlash measurement

snap-ring sufficiently to allow separation of the driveshaft and final drive internal splines. **Note:** *The snap-ring is not needed for reassembly.*

Inspection

Refer to illustration 18.10

6 The final drive unit should not require any attention provided the oil level has been checked regularly and the oil replaced according to the maintenance schedule. If there are signs of oil leakage and the oil level has dropped significantly, oil seal replacement is required.

7 Rotate the pinion gear shaft (the one that meshes with the driveshaft) by hand. The ring gear splines (which mesh with the rear wheel stub) should rotate smoothly. If rotation feels rough or jerky or if it is noisy, have the final drive overhauled by a Honda dealer.

8 The final drive unit requires special tools to disassemble and setup correctly, plus a degree of expertise to carry out gear tooth contact pattern checks. Similarly, disassembly of the driveshaft damper requires special tools and it is recommended that both assemblies by entrusted to a Honda dealer for overhaul.

9 It is possible to measure gear backlash if a dial test indicator is available. To do so, set the final drive unit on blocks so that access is available to the ring gear from underneath.

10 Remove the oil filler plug and set up a dial gauge so that the tip is against the face of one of the ring gear teeth **(see illustration).** Turn the ring gear by hand to take up any play in the gears, set the gauge to zero and turn the ring gear gently to measure the backlash. It is recommended that this measurement be taken at 120° intervals on the ring gear.

11 Backlash should not exceed 0.3 mm (0.012 in) and all three readings should not differ by more than 0.1 mm (0.004 in).

Installation

12 Hold the driveshaft vertical, with its damper end uppermost and fill the damper housing with the specified amount and type of oil. Install the short coil spring in the end of the driveshaft and keeping the driveshaft upright, install the final drive unit on its end so that the driveshaft and final drive splines fully engage. Mesh the components together carefully to avoid damaging the damper oil seal. **Note:** *Later models may have a small hole in the final drive unit splined collar - if so, rotate the collar so that the hole is upwards (as installed on the motorcycle).*

13 Hold the driveshaft and final drive unit firmly together to prevent oil loss from the damper, and install the assembly into the swingarm so that the splines on the front end of the driveshaft fully engage those of the gearcase output shaft. **Note:** *Positioning the universal joint so that the front end of the driveshaft is hori ontally aligned will help it engage the gearcase output shaft squarely.* With the final drive unit and swingarm faces perfectly joined, install the three nuts and secure them lightly; tighten to the specified torque after the rear wheel axle has been installed.

14 Install all other components in a reverse of the removal procedure, noting the following:

a) Tighten all fasteners to the specified torques, noting that the three final drive unit-to-swingarm nuts can be torqued after the rear a le is installed.

b) Refill the final drive unit with the correct type and amount of oil (see Chapter 1).

19 Bodywork and seat - removal and installation *Main*

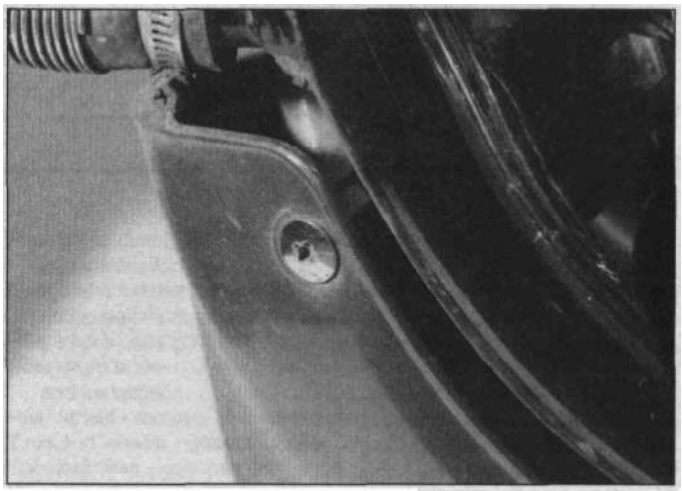
side covers

1 The side covers have three plastic pegs on their inner faces which locate in grommets set in the frame. Ease the cover pegs out of their grommets to remove the cover.

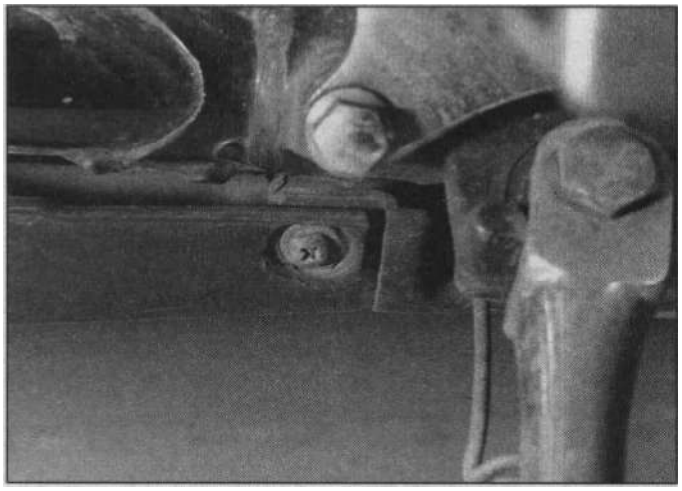
Belly fairing - 1987 and 1988 700/750 Magna models

Refer to illustrations 19.2a, 19.2b and 19.2c

2 The belly fairing is retained by four screws to the motorcycle's frame, two on each side **(see illustrations).** Each rear side section is



19.2a Belly fairing front section is retained by screw at front...

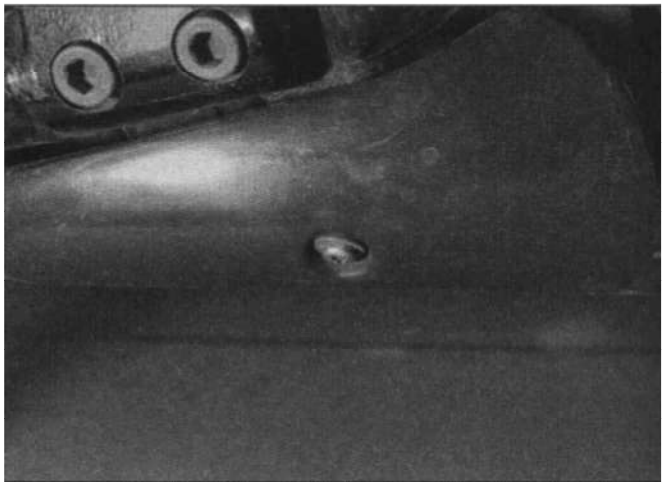


19.2b ... and at rear on each side

retained by a single screw at the rear; the front mounting is held by the main section rear screws **(see illustration).**

Front fender

3 Remove the front wheel (see Chapter 7).
4 From the inside of the front fender, remove the four bolts which retain it to the fork brace or fork slider (as applicable).
5 Installation is a reverse of removal, noting that any hose or cable guides must be returned to their original locations.



19.2c Rear section mounting screw

Seat

6 On 1987 and 1988 700/750 Magnas, the two-piece seat is retained by two bolts just beneath the seat strap buckles and a single bolt to the rear fender (mudguard).
7 On 1100 Sabre models, remove the side covers to access the two seat mounting bolts.
8 On all other models release the seat lock and disengage the seat prongs from the frame (the seat lock is set in the grab rail on later Magna models). From 1984 a two-part seat is fitted to 700/750 Magna models.