Drive System

■NOTE: Some photographs and illustrations used in this section are used for clarity purposes only and are not designed to depict actual conditions.

■NOTE: Critical torque specifications are located in Section 1.

GENERAL INFORMATION

All gear cases are tagged beneath a cover bolt. This tag is marked with a production date code, sequence code, and a ratio code. All gear cases are 4.0:1 ratio.

The die-cast aluminum housings have been assembled with thread-rolling screws (trilobular). When assembling with these screws, start the screws carefully into the housing; then use the following torque values.

Size	New Housing	Reassembled Housing
M6 (Torx T-30 Recess)	9 ft-lb	8 ft-lb
M8 (Torx T-40 Recess)	28 ft-lb	23 ft-lb

SPECIAL TOOLS

A number of special tools must be available to the technician when performing service procedures in this section. Refer to the current Special Tools Catalog for the appropriate tool description.

Description	p/n
CV Boot Clamp Tool	0444-120
Internal Hex Socket	0444-104
Pinion Gear/Shaft Removal Tool	0444-127
Gear Case Seal Installer Tool	0444-224
U-Joint Separator Tool	0444-128

■NOTE: Special tools are available from the Arctic Cat Service Parts Department.

Front Drive Actuator

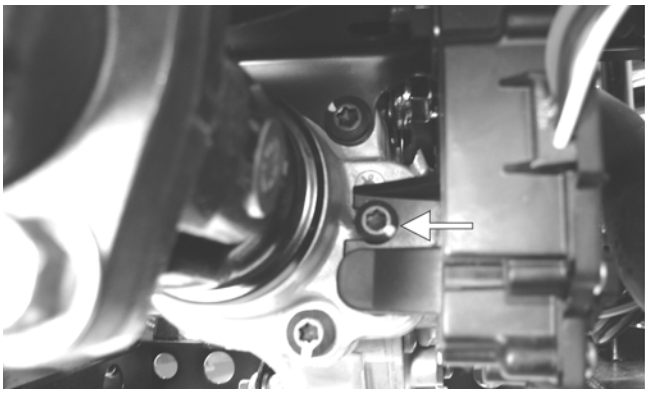
■NOTE: The actuator is not a serviceable component. If it is defective, it must be replaced.

■NOTE: The actuator will operate only when the ignition switch is in the ON position.

The front drive actuator is located on the right side of the front drive input housing. With the engine stopped and the ignition switch in the ON position, a momentary "whirring" sound can be heard each time the front drive selector switch is shifted. If no sound is heard, see Section 5. If the actuator runs constantly or makes squealing or grinding sounds, the actuator must be replaced.

REMOVING

1. Select 4WD on the switch; then disconnect the connector on the actuator harness.
2. Using a T-30 torx wrench, remove the mounting cap screw from the driveshaft side of the actuator.



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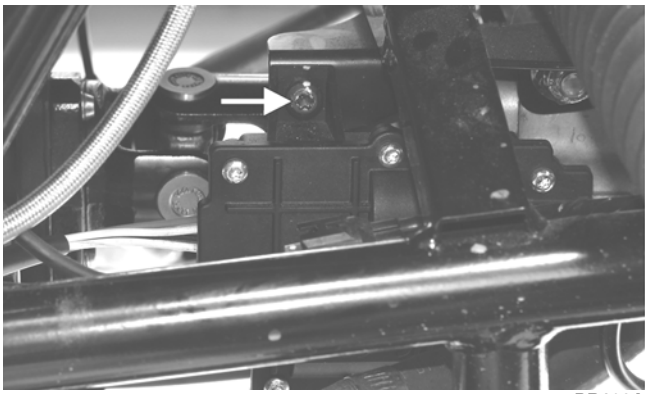
3. Remove the mounting cap screw from above the actuator on the suspension side.



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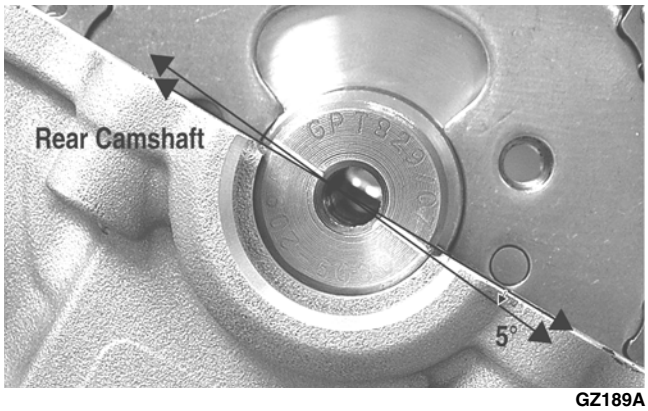
4. Loosen but do not remove the mounting cap screw at the front of the actuator; then slide the actuator to the rear enough to clear the slotted mounting tab and the selector shaft. Remove from the right side.

■NOTE: Note the position of the alignment marks on the end of the camshaft. They must NOT be parallel with the valve cover but offset slightly to the rear (approximately 5°). If rotating the camshaft is necessary for alignment, do not allow the chain and sprocket to rotate and be sure the cam lobes end up in the down position.



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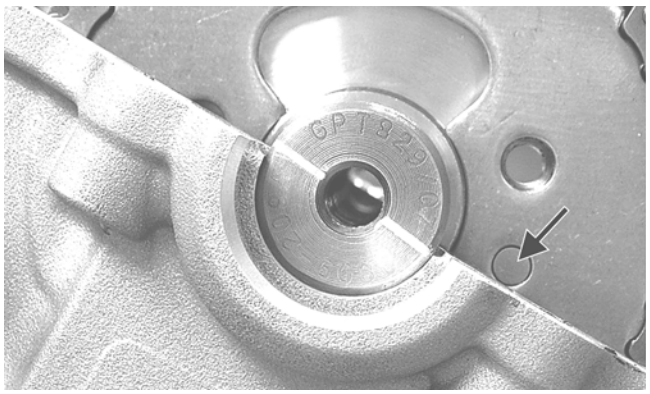

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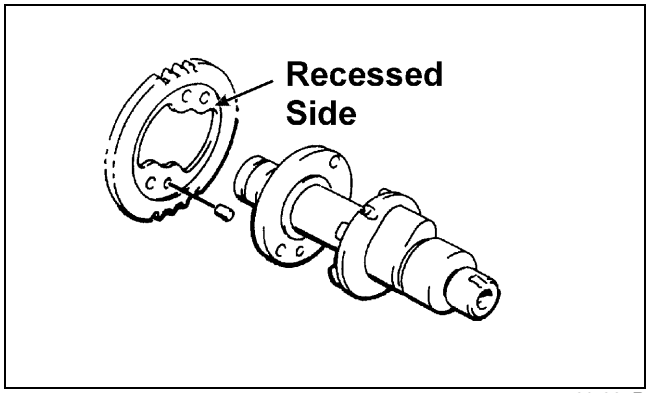
21. Seat the cam sprocket onto the camshaft making sure the alignment pin in the camshaft aligns with the smallest hole in the sprocket; then place the camshaft/sprocket assembly onto the cylinder ensuring the following.



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A. Piston still at top-dead-center.

B. Camshaft lobes directed down (toward the piston).

C. Camshaft alignment marks offset 5° from the rface.

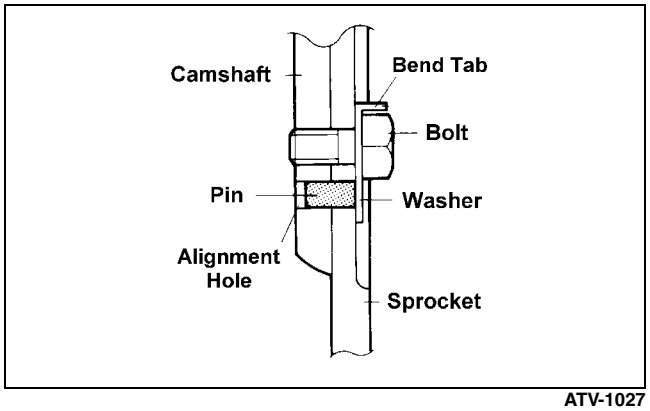
D. Recessed side of the sprocket directed toward the cam lobes.

E. Camshaft alignment pin and sprocket alignment hole (smallest) are aligned.

⚠ CAUTION

If any of the above factors are not as stated go back to step 19 and carefully proceed.

22. Place tab-washer onto the sprocket making sure it covers the pin in the alignment hole.



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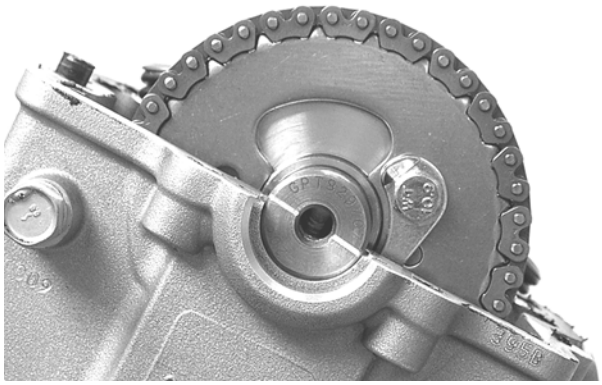
⚠ CAUTION

Care must be taken that the tab-washer is installed correctly to cover the alignment hole on the sprocket. If the alignment pin falls out, severe engine damage will result.

23. Install the first cap screw (threads coated with red Loctite #271) securing the sprocket and tab-washer to the camshaft. Tighten only until snug.



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24. Rotate the crankshaft until the second cap screw securing the sprocket to the camshaft can be installed; then install the cap screw (threads coated with red Loctite #271) and tighten to 11 ft-lb. Bend the tab to secure the cap screw.