



FOREWORD

This manual contains service, maintenance, and troubleshooting information for the 2012 Arctic Cat DVX 90/90 Utility ATV. The manual is designed to aid service personnel in service-oriented applications and may be used as a textbook for service training.

This manual is divided into sections. Each section covers a specific ATV component or system and, in addition to the standard service procedures, includes disassembling, inspecting, and assembling instructions. When using this manual as a guide, the technician should use discretion as to how much disassembly is needed to correct any given condition. A troubleshooting section is also included in this manual.

The service technician should become familiar with the operation and construction of each component or system by carefully studying this manual. This manual will assist the service technician in becoming more aware of and efficient with servicing procedures. Such efficiency not only helps build consumer confidence but also saves time and labor.

All Arctic Cat ATV publications and decals display the words Warning, Caution, Note, and At This Point to emphasize important information. The symbol  **WARNING** identifies personal safety-related information. Be sure to follow the directive because it deals with the possibility of severe personal injury or even death. A **CAUTION** identifies unsafe practices which may result in ATV-related damage. Follow the directive because it deals with the possibility of damaging part or parts of the ATV. The symbol  **NOTE:** identifies supplementary information worthy of particular attention. The symbol  **AT THIS POINT** directs the technician to certain and specific procedures to promote efficiency and to improve clarity.

At the time of publication, all information, photographs, and illustrations were technically correct. Some photographs used in this manual are used for clarity purposes only and are not designed to depict actual conditions. Because Arctic Cat Inc. constantly refines and improves its products, no retroactive obligation is incurred.

All materials and specifications are subject to change without notice.

Keep this manual accessible in the shop area for reference.

**Product Service and
Warranty Department
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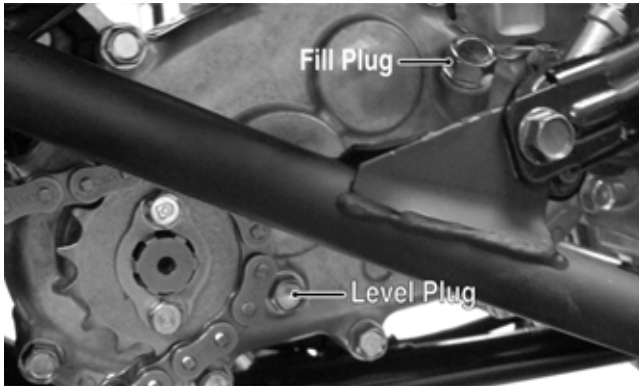
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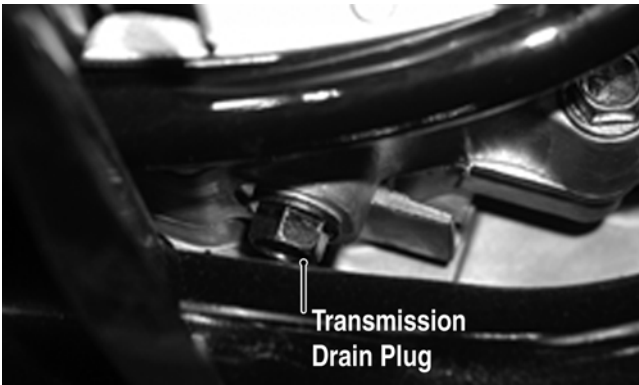
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- Remove the level plug from the lower-right side of the transmission; then remove the fill plug from the upper-right side of the transmission. Be careful not to allow contaminants to enter the opening.



YT188A

- Remove the drain plug from the bottom of the transmission and drain the lubricant into a drain pan.

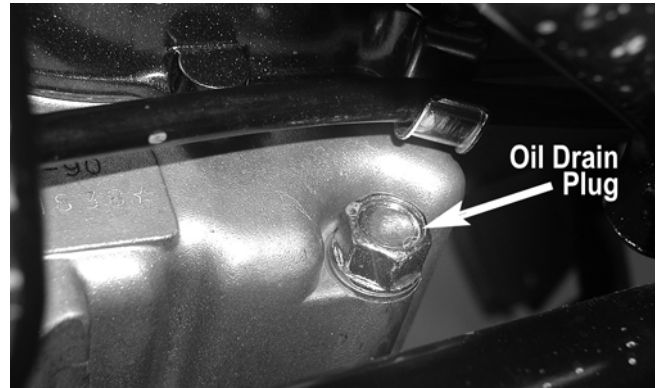


KM038A

- Install the drain plug and tighten to 18 ft-lb. Pour the recommended lubricant in the fill hole while observing the oil level hole. Stop pouring if oil is observed at the threads of the oil level hole. Install and tighten the oil level plug.
- Start the engine (while the ATV is outside on level ground) and drive it a short distance.
- Turn the engine off and wait approximately one minute. Remove the level and recheck the lubricant level. The level should be visible at the level hole. If lubricant is not visible, add recommended lubricant until the level is visible at the level hole.
- Inspect the area around the drain plug for leaks.

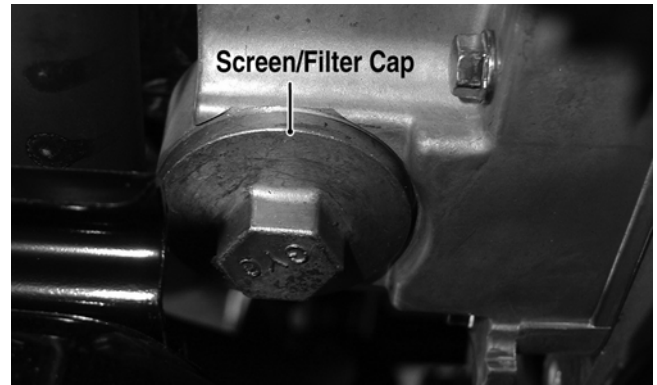
Engine Oil

- Move the ATV outdoors and start and warm up the engine. Shut the engine off; then place a drain pan under the engine oil drain plug located on the left-side rear of the engine under the kick starter.



CD634A

- Remove the oil drain plug and drain the engine oil into the pan; then install the oil drain plug and tighten to 18 ft-lb.
- Move the drain pan to the right-front of the engine and remove the oil screen/filter cap. Account for a screen, spring, and O-ring.



KM040A



CD628

- Clean the oil screen in parts-cleaning solvent using a brush; then install the screen, spring, and cap making sure the O-ring is seated properly in the cap. Tighten to 10 ft-lb.



■NOTE: Support the connecting rod with rubber bands or install a connecting rod holder to avoid damaging the rod.

CAUTION

Do not allow the connecting rod to go down inside the crankcase. If the rod is down inside the crankcase and the crankshaft is rotated, severe damage will result.

■NOTE: If the existing rings will not be replaced with new rings, note the location of each ring for proper installation. When replacing with new rings, replace as a complete set only. If the piston rings must be removed, remove them in this sequence.

👉 AT THIS POINT

To service piston, see Servicing Top-Side Components sub-section.

👉 AT THIS POINT

To service center crankcase components only, proceed to Removing Left-Side Components.

Servicing Top-Side Components

■NOTE: Whenever a part is worn excessively, cracked, or damaged in any way, replacement is necessary.

VALVE ASSEMBLY

When servicing valve assembly, inspect valve seats, valve stems, valve faces, and valve stem ends for pits, burn marks, or other signs of abnormal wear.

■NOTE: Whenever a valve is out of tolerance, it must be replaced.

Cleaning/Inspecting Cylinder Head Assembly

Inspect the combustion area of the cylinder head for cracks, burned valves or carbon build-up.

■NOTE: If valves are discolored, they must be replaced. Arctic Cat recommends taking heads to a qualified machine shop for valve replacement or valve seat grinding.

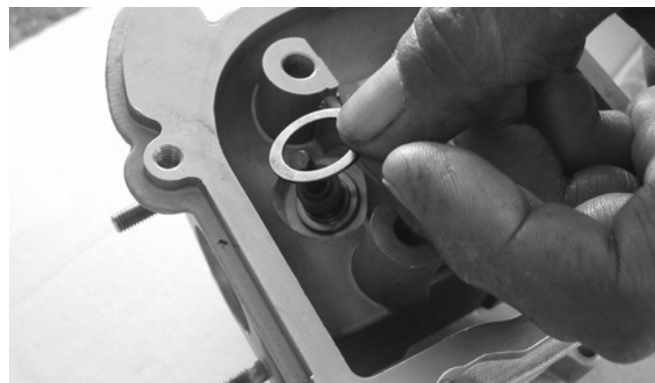
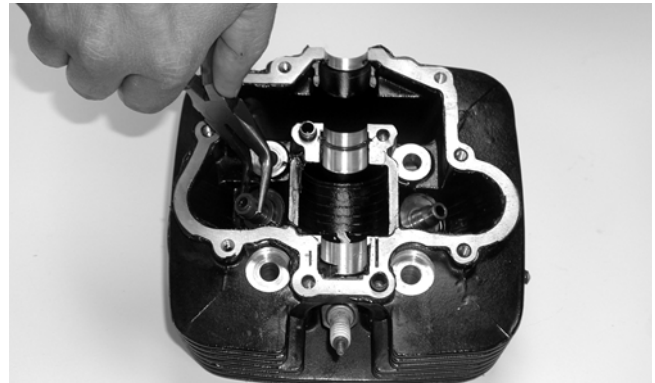
REMOVING VALVES

■NOTE: Keep all valves and valve components as a set. Note the original location of each valve set for use during installation. Return each valve set to its original location during installation.

1. Using a valve spring compressor, compress the valve springs and remove the valve cotters. Account for an upper spring retainer.



2. Remove the valve seal and the lower remaining spring seat. Discard the valve seal.



■NOTE: The valve seals must be replaced.

3. Remove the valve springs; then invert the cylinder head and remove the valves.

Measuring Valve Stem Runout

1. Support each valve stem end with the V blocks; then check the valve stem runout using a dial indicator.

Installing Left-Side Components

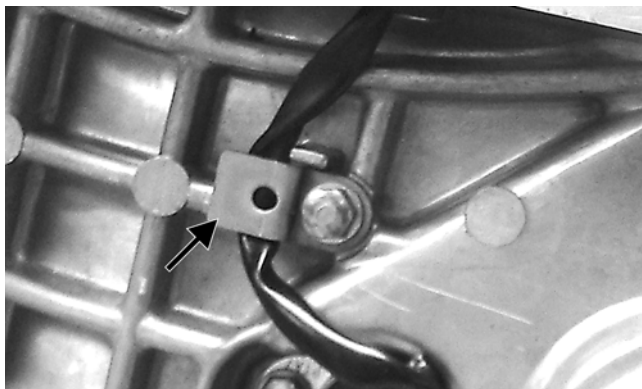
- A. GEAR POSITION SWITCH**
- B. STARTER ONE-WAY CLUTCH**
- C. ROTOR/FLYWHEEL**
- D. CENTRIFUGAL CLUTCH**
- E. V-BELT/DRIVE CLUTCH/DRIVEN PULLEY**

1. With the transmission in neutral, install a new O-ring on the gear position switch; then orient the pin as shown and install the switch into the gear case. Secure with a cap screw and tighten securely.



YT028

2. Secure the gear position switch wire as shown; then tighten the cap screw on the hold-down clip securely.



YT165A

3. Install the starter one-way clutch/gear assembly on the crankshaft; then with a thrust washer on each side of the starter countershaft gear, install the starter countershaft gear/countershaft into the crankcase.



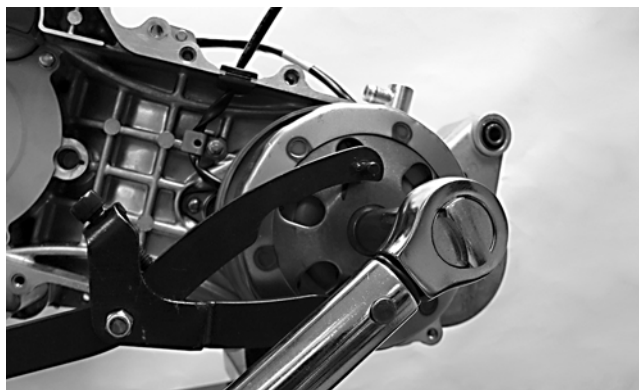
YT024B

4. Install the starter countershaft housing; then install the starter one-way clutch cover. Tighten the cap screws securely.



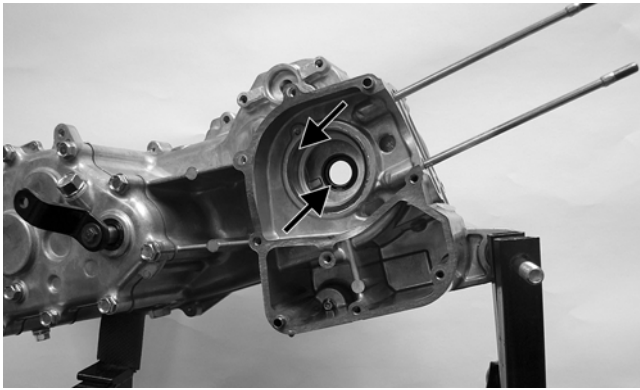
YT023A

5. Install the driven pulley/centrifugal clutch assembly onto the transmission input shaft; then install the centrifugal clutch housing and secure with a flange nut (coated with red Loctite #271). Tighten to 40 ft-lb.



YT147

6. Install the movable drive face, bushing, and speed limiter spacer.



YT122A

6. Replace all oil seals with new seals and coat wear surfaces with clean, fresh grease.



YT153A



YT122B

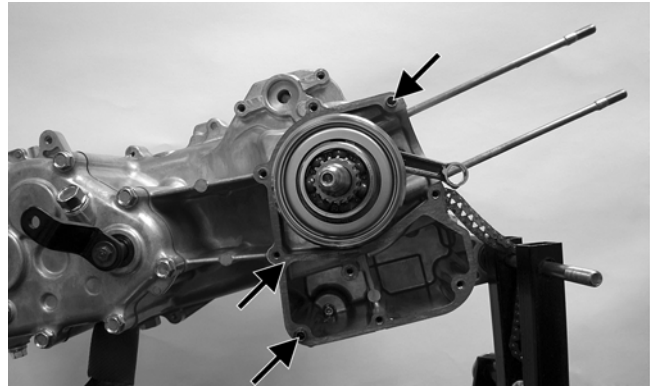
Assembling Crankcase Half

1. Place the timing chain into the crankcase; then install the crankshaft assembly into the crankcase half.

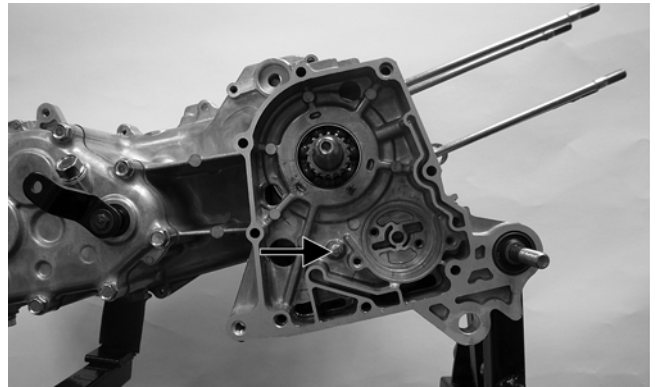


YT120

2. Install two alignment pins and a gasket; then install the right-side crankcase half. Secure with a cap screw (threads coated with red Loctite #271) and tighten to 8 ft-lb.

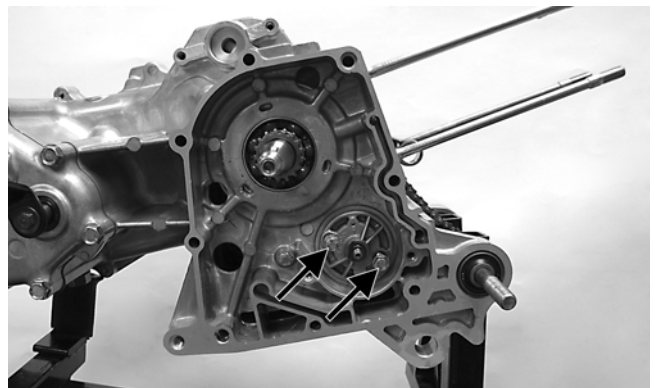


YT119A



YT118A

3. Install the oil pump into the crankcase with the arrow and dot directed upward; then secure with two cap screws and tighten to 7 ft-lb.



YT151A

- Turn the idle adjustment screw in or out until the engine idles at 1700 RPM.



YT015B

⚠ WARNING

Adjust the idle to the correct RPM. Make sure the engine is at normal operating temperature before adjusting the idle RPM.

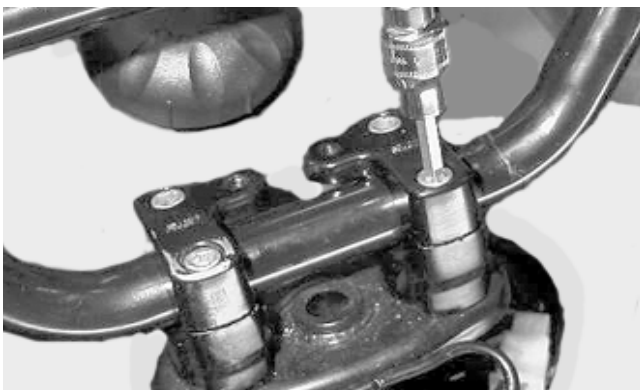
Gas Tank

⚠ WARNING

Whenever any maintenance or inspection is made on the fuel system during which there may be fuel leakage, there should be no welding, smoking, open flames, etc., in the area.

REMOVING

- Turn the gas tank valve to the OFF position.
- Remove the gas hose from the carburetor by removing the spring clamp; then funnel the gas hose into an appropriate container of sufficient size to catch all the gas from the gas tank.
- Turn the gas tank valve to the RES position and drain the gas from the gas tank.
- Remove the seat.
- Remove the top handlebar caps.

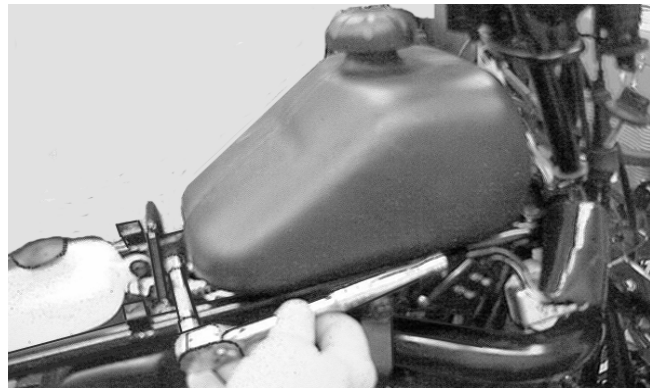


MD2139

- Carefully lay the handlebar assembly forward on the front fender panel.

■NOTE: To access the gas tank, it is necessary to move the front fender panel, which requires removing the handlebar from its clamp. However, the levers, controls, cables, and wires do not need to be disconnected. The front fender panel and handlebar assembly can be tilted forward far enough to gain access to the gas tank.

- Remove the four Phillips-head cap screws and six nuts securing the front fender panel. Account for eight washers.
- Remove the gas tank cap; then tilt the front fender panel and handlebar forward.
- Remove the two cap screws securing the gas tank; then lift the gas tank and secure it out of the way.



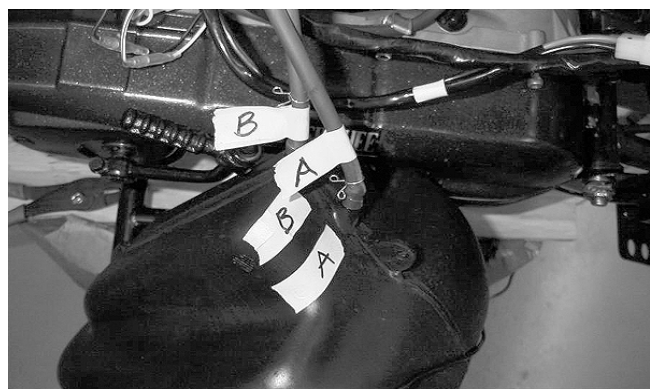
MD2393

- Remove the gas hoses from the gas tank valve noting where each one is attached.



MD1865

■NOTE: Mark the gas hoses for assembling purposes.



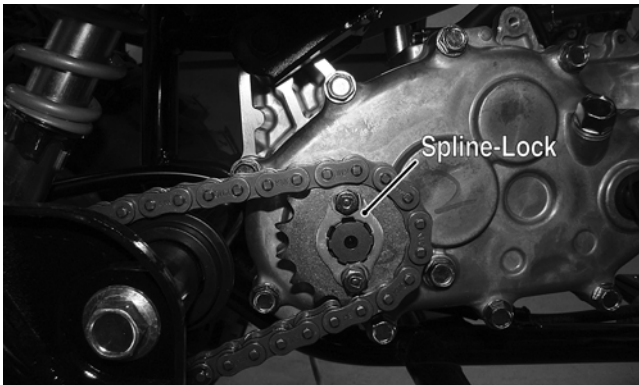
MD1848



MD1854

REMOVING FRONT DRIVE SPROCKET

1. With the chain installed and with the rear brake applied, remove the two cap screws securing the spline-lock to the drive sprocket.



YT009A

2. Loosen the drive chain (see Adjusting Drive Chain in this sub-section).
3. Remove the drive sprocket and chain; then remove the sprocket from the chain.

INSTALLING FRONT DRIVE SPROCKET

1. Place the drive sprocket into the drive chain; then slide onto the driveshaft.
2. Install the spline-lock and two cap screws.
3. Adjust the drive chain (see Adjusting Drive Chain in this sub-section).
4. With the rear brake lever lock applied, tighten the cap screws to 8 ft-lb.

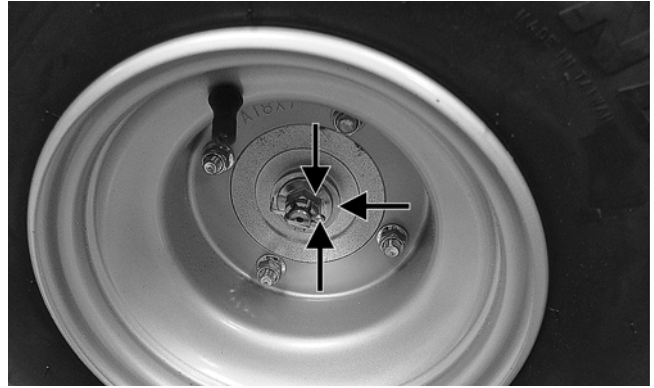
REMOVING REAR SPROCKET

1. Secure the ATV on a support stand to elevate the rear wheels.

⚠ WARNING

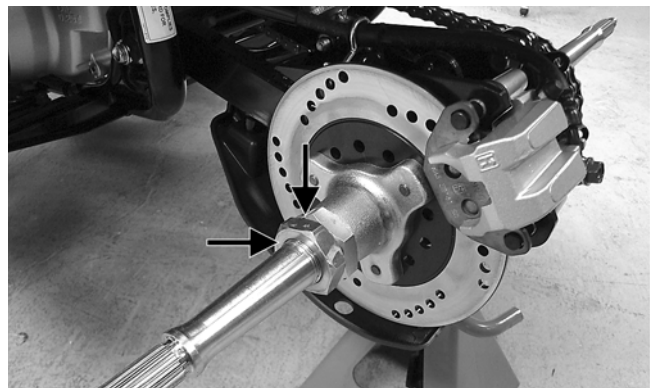
Make sure the ATV is solidly supported on the support stand to avoid injury.

2. Remove the cotter pins from the axle shaft and discard; then apply the rear brake and remove the castle nuts from the axle. Account for the flat washer.

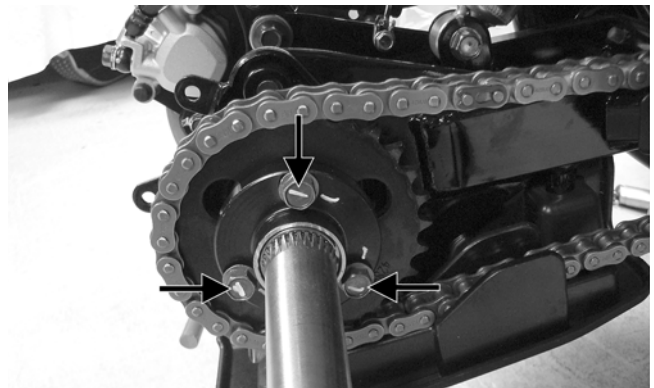


YT175A

3. Remove the left and right rear wheels.
4. Remove the two axle nuts securing the brake hub to the axle; then remove three cap screws securing the rear sprocket to the sprocket retainer.



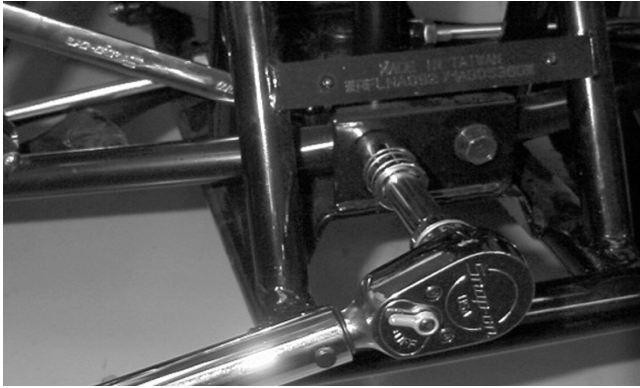
YT195A



YT197A

NOTE: It is not necessary to remove the drive chain in order to remove the rear sprocket.

5. Slide the axle shaft out of the housing from left to right leaving the brake disc and hub and rear sprocket in place; then lift the rear sprocket out of the chain.



MD2425

- Secure the shock absorber to the A-arm with the cap screw and self-locking nut. Tighten the nut to 29 ft-lb.

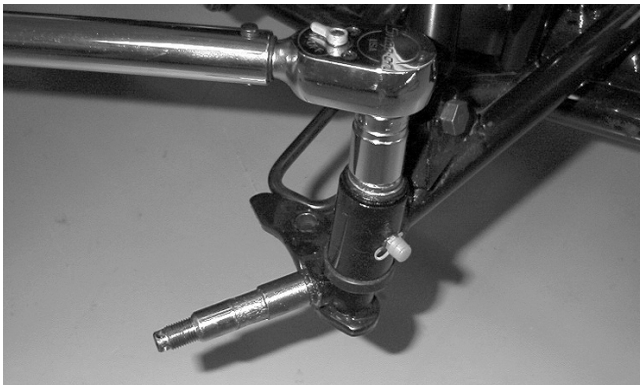
CAUTION

Do not tighten the nut beyond the 29 ft-lb specification or the shock eyelet or mount WILL be damaged.



MD2424

- Lubricate the steering knuckle assembly with grease; then install it into the A-arm and secure with the flanged castle nut. Tighten the nut to 29 ft-lb; then install a new cotter pin and the rubber spindle pin boot.



MD2427

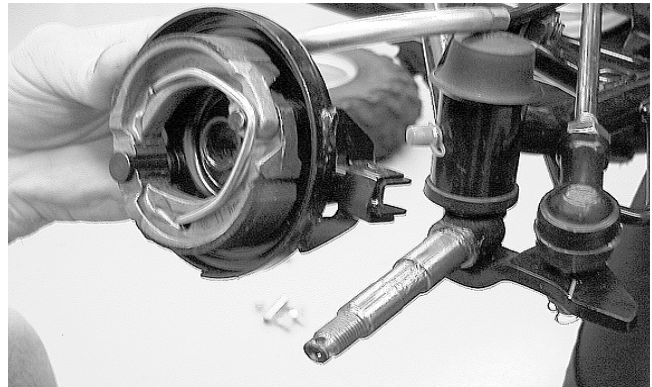
- Install the tie rod end into the steering knuckle and secure it with the self-locking nut. Tighten the nut to 25 ft-lb; then install a new cotter pin.



MD2426

- Apply a light coat of grease to spindle shaft; then install the brake backing plate assembly onto the shaft.

■NOTE: When installing the brake backing plate assembly, be sure to align the notch in the backing plate with the tab on the steering knuckle.



MD2381

- Place the hub assembly onto the spindle; then install the washer and castle nut. Tighten the castle nut to 45 ft-lb; then install a new cotter pin. Install the wheel and tighten the cap screws to 30 ft-lb.

- Remove the ATV from the support stand.

⚠ WARNING

After removing and installing brake-related components, ALWAYS check and adjust brakes as necessary before operating the ATV.

Swing Arm

REMOVING

- Secure the ATV on a support stand to elevate the rear wheels; then remove the wheels.

⚠ WARNING

Make sure the ATV is solidly supported on the support stand to avoid injury.

- Remove two cap screws securing the brake caliper to the axle housing.

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