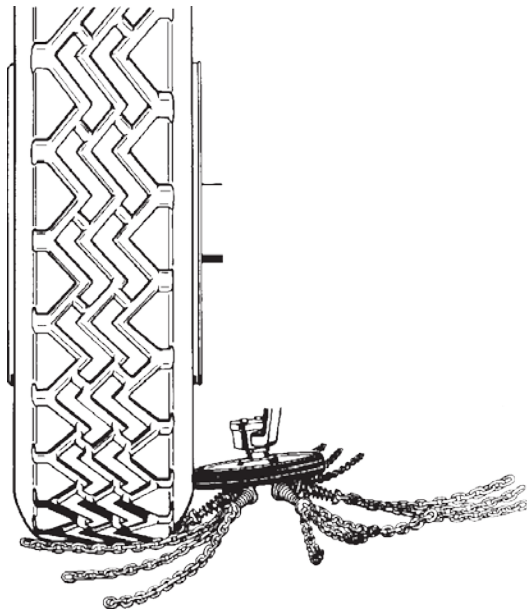




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# General Fitting Instructions To be installed by authorized personnel only



## ROTO III Automatic Chain System for Light Trucks

# Fitting Instructions

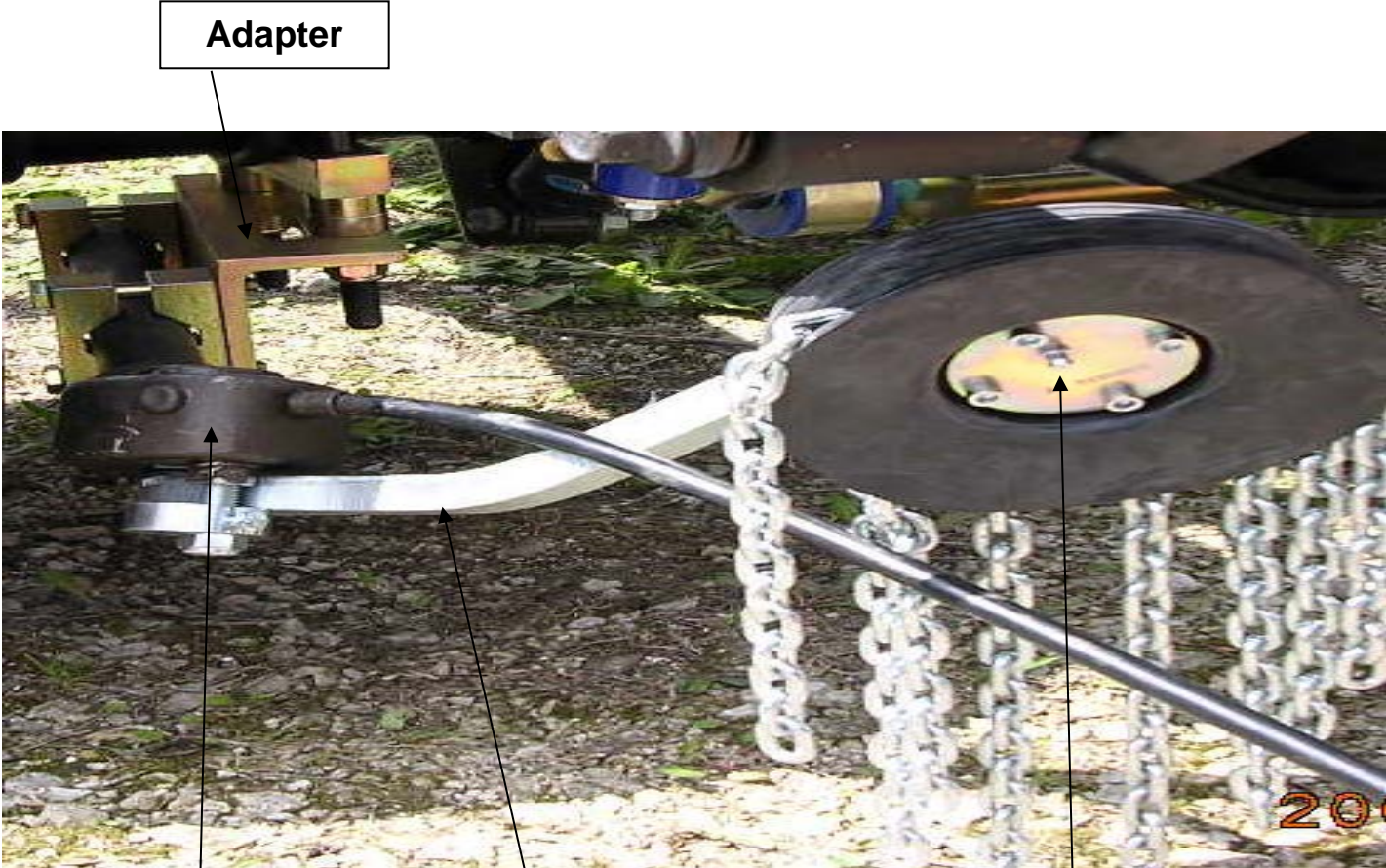
## Universal Roto III Assembly

Chain Wheel

Swivel Arm

Swivel Assembly

Adapter



Swivel Assembly

Swivel Arm

Chain Wheel

# Fitting Instructions

## **Chain Wheels**

### **Description**

Rotating chains essentially consist of four sub-assemblies. These can be easily installed on the vehicle with the aid of the accompanying Installation Instructions. Remember! Ground clearance of vehicle is reduced with automatic snow chains.

### **Adapters**

May consist of 90° angle mounting plates or adapter plate mount.

### **Swivel Assembly - left & right**

The swivel assembly consists of mounting tube with cable pivot housing, swivel arm and chain wheel.

### **Pneumatic Assembly**

Air cylinder unit and mounting hardware. (Other parts are dependent on activation system chosen.)

# Fitting Instructions

## **Attention - Important Notice:**

Rotating chains must be installed so that no critical parts of the vehicle are weakened. Brake lines, cables etc. within the swiveling range of the chains, must not be put at risk.

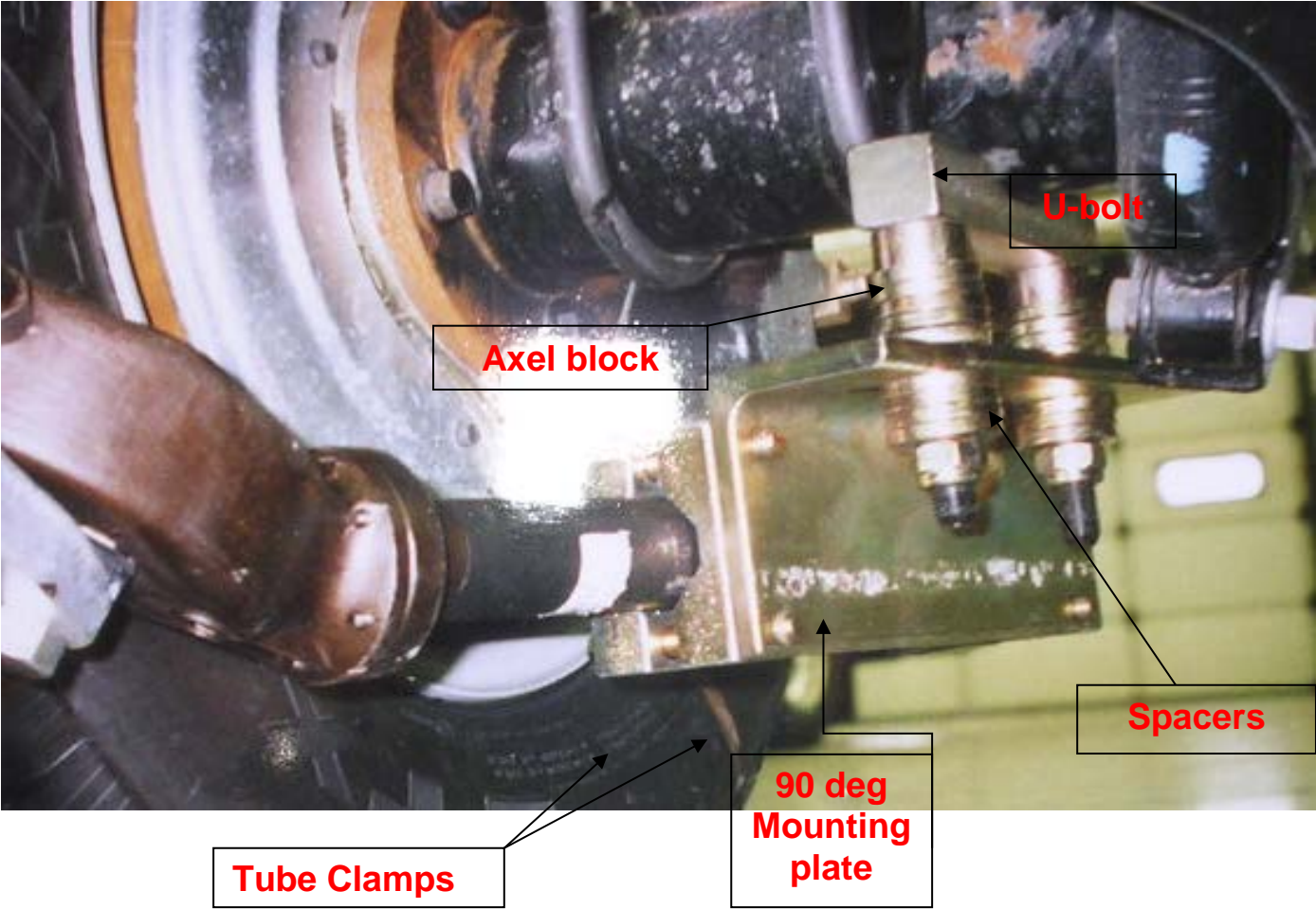
## **Mounting the Swing Arm Assemblies**

With a piece of chalk or similar, mark the point of contact of the chain disc on the sidewall of the tire. With the vehicle un-loaded, this should be approximately 3" (+/- 1/4") above the road surface and at the vertical center of the tire. You cannot be ahead of your center mark, but allowed to be 1/4 in behind center. The Instructions must be followed. Variance from these may result in damage to the system.



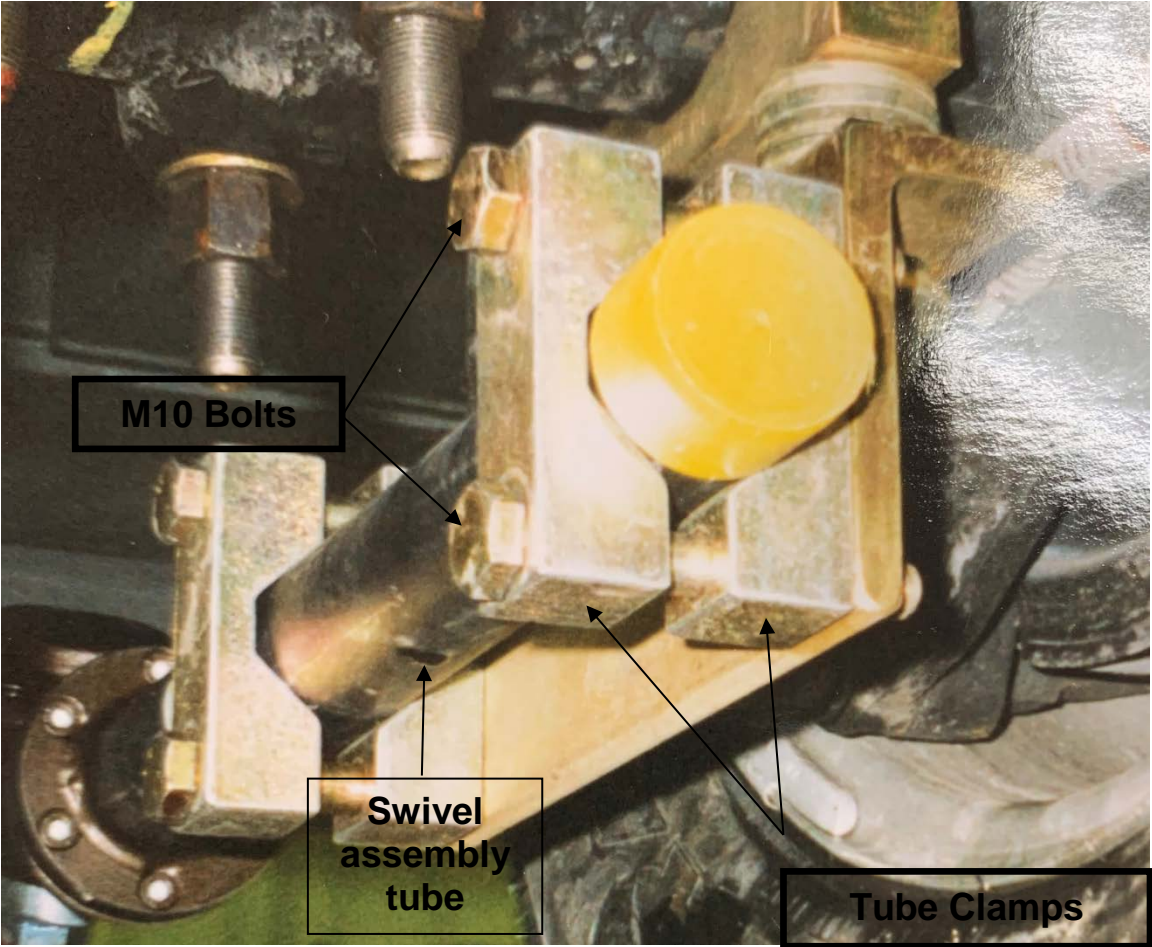
# Fitting Instructions

Install 90° mounting plate with U-bolts supplied. The axle-mounting block needs to be put on the U-bolt first, next using spacers as needed you can shim the mounting plate down. When shimming the 90° mounting plate down you will need to check and see how your chain wheel placement is. When you get the correct chain wheel height, Then snug everything up. The mounting tube clamps are bolted to the 90° mounting plate. Make sure you use two clamps in the front and in the rear.



# Fitting Instructions

Install mounting tube of the swivel unit as shown, into the mounting assembly. Adjust the swivel unit in accordance to the measurement of the centerline and height of the chain wheel. Tighten bolts on the tube clamps just enough so that adjustments to the swivel unit may be made. Mount chain wheel with nylon bushing to swing arm. Tighten enough to hold wheel & allow adjustment of wheel angle.



# Fitting Instructions

**The air cylinder unit is mounted using the hardware provided. Mount the cylinder unit within reach of cables under the vehicle, preferably enclosed in the vehicle frame to protect the assembly.**

**Adjust push-pull cables on either the adjusting nuts or attachment clips. Tighten so that no movement of the assembly can be detected.**



**Adjustment of Chain wheels & system. Chain wheel position is critical to the performance & life of the Rotogrip system. Pull down on the swing arm and make sure the wheel is centered on vehicle tire at an approximate 5°-10° angle to the tire. The Chain wheel height from the ground must be approximately 3" (+/- 1/4"). After correct position is obtained, tighten locking bolts to 60 ft. lbs. All other fasteners may be tightened at this time to correct ft. lbs. shown on the next page.**



# Fitting Instructions

## **IMPORTANT -**

After installation is complete, observe chain wheel and arm movement. Make sure no vehicle parts come in contact with the Rotogrip arm or wheel in their swinging process (drive shaft, brake lines, etc.). Chain strands should be approximately 1/2" off the ground and can be adjusted using stop provided on mechanism (when vehicle is loaded).

## **HINTS & WARNINGS -**

### **Bolt Torques:**

Rotogrip U-Bolts 183nm (M16) 135 ft. lbs. Clamping bolts 60 ft. lbs.

Nylon bushing locking bolts 53 ft. lbs.

Tube clamps (used with adaptor plates) 100 ft. lbs.

U-Bolt nuts - Use manufacturer's recommendation when re-torqueing and replacing U-bolts. Keep away from swing arm travel path! Original U-bolt nuts shouldn't be removed nor should RUD extension nuts be used as a replacement for U-bolt nuts.



## **OPERATING INSTRUCTIONS**

- Activate the Rotogrip system before entering hazardous road conditions, this way you will have chains under the tires when needed.
- Engage and disengage at lowest possible speed. This will save wear and tear on the system. (Must be moving to disengage) (10 mph or less)
- Avoid off road conditions when possible.
- Maximum speed with the system engaged is 30mph.
- Avoid locking wheels.
- For use in 4 inches of snow or less.
- System will provide traction in both forward and reverse as well as braking.
- Although Rotogrip provides additional traction, always observe all traffic laws and use good winter driving habits in adverse conditions.

## **SERVICE & MAINTENANCE**

- Inspect all parts for damage.
- Check all fasteners for correct torque (including vehicle's U-bolts).
- Check airlines & solenoid for leaks with system engaged, taking care to stay out of swing arm & chain wheel travel path.
- Inspect contact ring rubber and chain strands for wear and replace when wear exceeds 50%.
- Inspect inside sidewalls of the tires. Tire wear indicates mis-alignment or damage to the system.
- Swing arms on full size system contain self-lubricating nylon bushing. No lubrication is necessary.
- Chain wheels on full size systems contain sealed bearings & do not require lubrication. Check that they spin freely & replace as necessary.
- Check for proper chain wheel position in relation to the vertical center of the vehicle tire (see installation instructions).
- Rotogrip III chain wheels can be greased. Swing arm assemblies are sealed.
- Full-size system can be easily removed in summer. Remove swing arm assemblies. Leave mounting brackets in place & plug air lines.

If unsure about operation or service to the Rotogrip system, please consult your dealer or RUD-Chain, Inc. at 1-800-553-7993.