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## Thunder Stick™ & Outlaw™ Shifter Optional Equipment Installation Instructions

### The TCI® products covered here are:

- Three speed reverse pattern gate plate ..... **618013**
- Four speed forward pattern gate plate ..... **618014**
- Two speed (Powerglide) gate plate ..... **618015**
- Three speed forward pattern gate plate ..... **618019**
- Mounting bracket ..... **618003**
- Back up light switch ..... **618012**

To use a different gate plate on the shifter, remove the two screws and three E-rings that hold the gate plate on (**See Figure 1**).

**Powerglide Equipped Vehicles: See Page 3.**

### OPERATION

#### How to shift Thunder Stick™/Outlaw Shifter™ with various gate plates

*Note: The Reverse Lockout Lever (See Figure 1) described in the following instructions ONLY needs to be operated when shifting from Neutral to Reverse.*

#### 3 SPEED FORWARD PATTERN (See Figure 2)

- 1. First Gear:** (Starting with the shifter in Park) Pull the trigger lightly until it stops, then pull the stick all the way back releasing the trigger at mid travel.
- 2. Second Gear:** Push the stick forward to stop.
- 3. Third Gear:** Pull and hold the trigger firmly, then push the stick forward to stop. Release the trigger and remove the pressure from the stick allowing the spring loaded selector pin to raise to the top of the gate opening.
- 4. Neutral:** Push the stick forward to stop.
- 5. Reverse:** Push the Reverse Lockout lever forward, then push the stick forward to stop.
- 6. Park:** Pull and hold the trigger lightly until it stops, then while holding pressure on the trigger push the stick forward until it stops.

#### 3 SPEED REVERSE PATTERN (See Figure 3)

- 1. First Gear:** (Starting with the shifter in Park) Pull

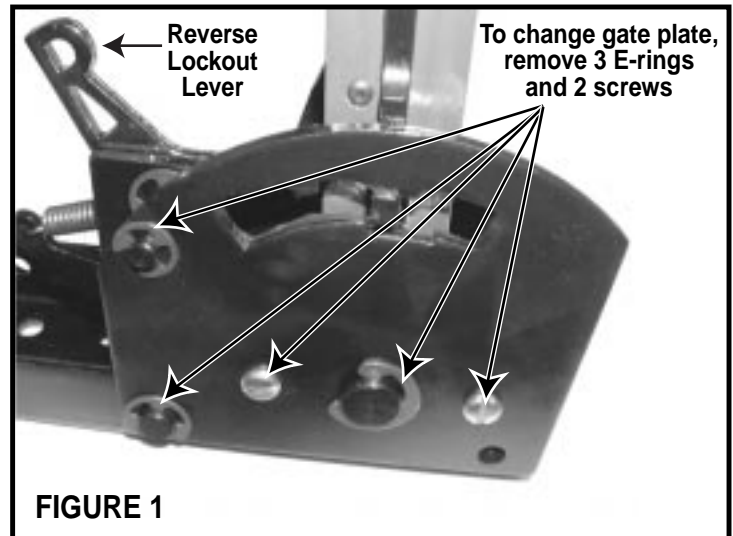


FIGURE 1

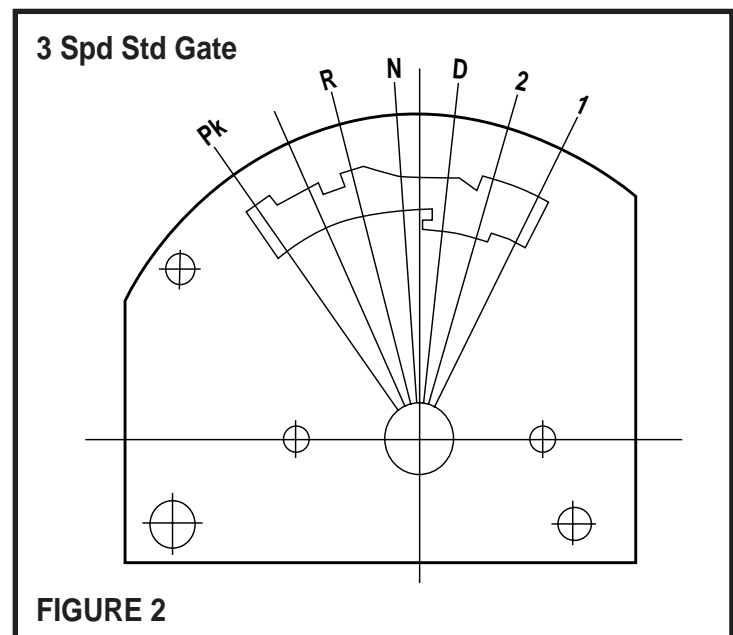


FIGURE 2

the trigger lightly until it stops, then while holding the pressure on the trigger pull the stick rearward slowly until the stick stops at the '1' position.

- 2. Second Gear:** Pull the stick rearward against the stop.
- 3. Third Gear:** Pull the trigger lightly until it stops, then while

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holding pressure on the trigger pull the stick rearward until it stops.

**4. Neutral:** From Third, Second, or First. Pull the trigger lightly until it stops, then while holding pressure on the trigger push the stick forward until it stops.

**5. Reverse:** Push the Reverse Lockout lever forward, then push the stick forward until it stops.

**6. Park:** Pull the trigger lightly until it stops, then while holding pressure on the trigger push the stick forward until it stops.

## 2 SPEED FORWARD PATTERN (See Figure 4)

**1. Low:** (Starting with the shifter in Park) Pull the trigger lightly until it stops, then while holding pressure on the trigger pull the stick all the way back releasing the trigger at mid travel.

**2. Drive:** Push the stick forward until it stops.

**3. Neutral:** Pull the trigger firmly until it stops, then push the stick forward until it stops. Release the trigger.

**4. Reverse:** Push the Reverse Lockout lever forward, then push the stick forward until it stops.

**5. Park:** Pull the trigger lightly until it stops, then while holding pressure on the trigger push the stick forward until it stops.

## 2 SPEED REVERSE PATTERN (See Figure 4)

**1. Low:** (Starting with the shifter in Park) Pull the trigger lightly until it stops, then while holding pressure on the trigger, pull the stick rearward slowly until it stops at the "L" position.

**2. Drive:** Pull the stick rearward until it stops.

**3. Neutral:** Pull the trigger lightly until it stops, then while holding pressure on the trigger, push the trigger forward until it stops at the "N" position. Release the trigger.

**4. Reverse:** Push the Reverse Lockout lever forward, and then push the stick forward until it stops.

**5. Park:** Pull the trigger lightly until it stops, then while holding pressure on the trigger push the stick forward until it stops.

## 4 SPEED FORWARD PATTERN (See Figure 5)

**1. First Gear:** (Starting with the shifter in Park) Pull the trigger lightly until it stops, then pull the stick all the way back releasing the trigger at mid travel.

**2. Second Gear:** Push the stick forward until it stops.

**3. Third Gear:** Pull and hold the trigger firmly, then push the stick forward until it stops. Release the trigger and remove pressure from the stick allowing the spring loaded selector pin to raise to the top of the gate opening.

**4. Fourth Gear:** Push the stick forward until it stops.

### 3 Spd Rev Gate

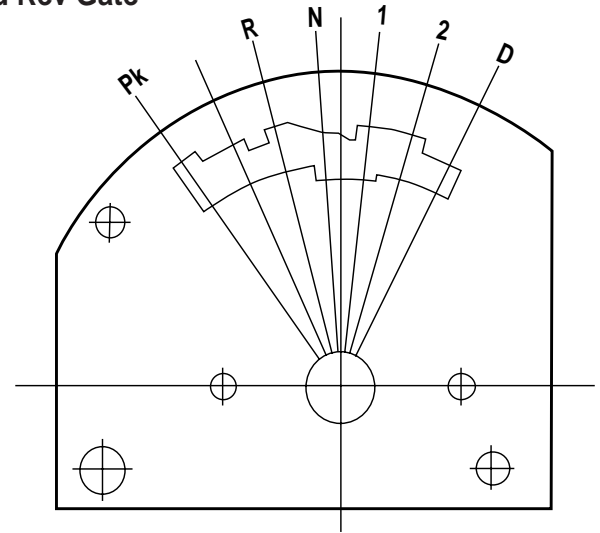


FIGURE 3

### 2 Spd Gate

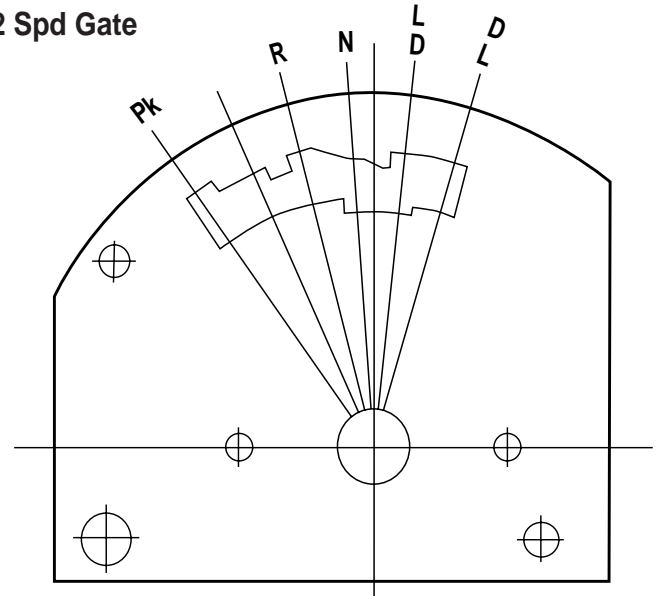


FIGURE 4

### 4 Spd Gate

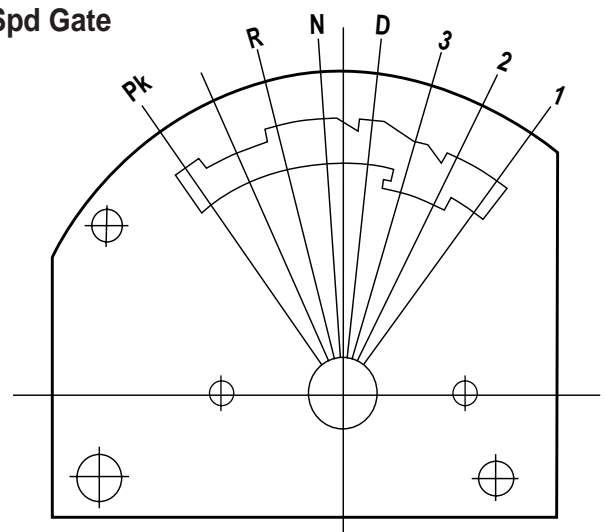


FIGURE 5

**5. Neutral:** Pull the trigger and push the stick forward until it stops. Release the trigger.

**6. Reverse:** Push the Reverse Lockout lever forward, then push the stick forward until it stops.

**7. Park:** Pull the trigger lightly until it stops, then while holding pressure on the trigger, push the stick forward until it stops.

## POWERGLIDE INSTALLATION

**Step 1.** Disconnect the throttle to transmission linkage if any and discard. The Powerglide shift lever supplied with this shifter has no provision for a throttle linkage.

**Step 2.** Drain the transmission oil pan. **Caution:** Be sure the transmission is cool before attempting to drain the oil. Place the drain pan under the transmission. Remove the drain plug if so equipped. If your pan does not have a drain plug remove the oil pan bolts one at a time working towards the front. As you loosen the last bolts the oil pan will tilt down and allow the oil to drain. **Note:** If your oil pan sticks to the gasket pry it down with a screwdriver before loosening the last two bolts to break it free. Remove the oil pan and set it aside.

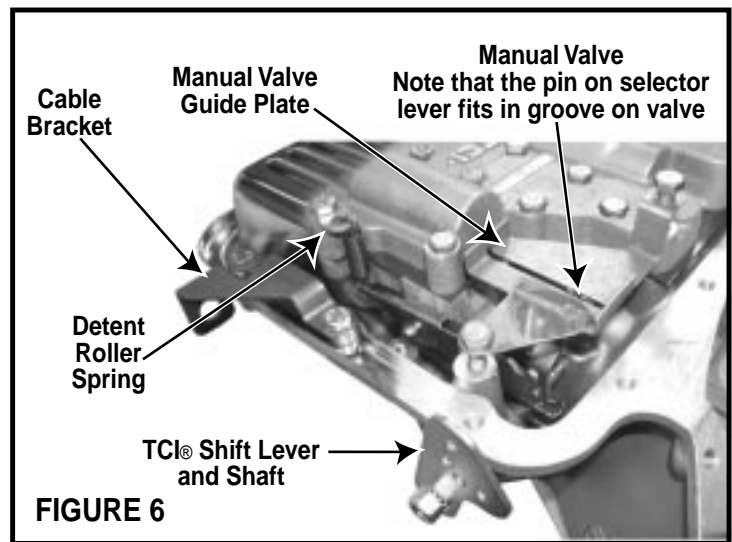
**Step 3.** Remove the manual valve guide plate by removing two bolts (**See Figure 6**). Unhook and remove the detent roller spring. Allow the detent roller to pivot out of the way. Note how the pin on the manual valve selector engages the groove in the manual valve.

**Step 4.** If your transmission has a throttle valve lever on the outside of the shift lever loosen the inner pinch bolt on the throttle level. Slide the throttle lever and shaft out of the transmission. Remove the inner throttle valve lever. Discard these parts.

**Step 5.** Loosen the pinch bolt on the selector lever. This can be either an Allen head bolt of a 12-point bolt head. Do not remove the pinch bolt. Slightly pry the manual valve lever and slide the selector shaft from the transmission. Discard the selector shaft.

**Step 6.** This kit includes the TCI® Powerglide shift lever which is a two-piece assembly with separate lever and shaft. Install the TCI® selector shaft into the transmission with the lever pointing down. Hold the stock selector lever in position in the case, engage the pin on the selector lever with the manual valve and rotate the TCI® shaft until the flat on the shaft engages the serrations on the lever. Push the TCI® lever firmly into the transmission until the lever stops on the shoulder of the shaft. Tighten the pinch bolt securely.

**Step 7.** Install the manual valve guide plate in place.



(Make sure that pin on the selector lever is engaged in the groove in the manual valve.) Install the two bolts and tighten to 15 lbs.-ft. Install the detent roller spring. Hook the spring to the detent roller and tab. The selector lever must travel freely and smoothly from front to back with a positive click in each gear position.

**Step 8.** Clean the oil pan and scrape the old gasket off of the pan and case. (**Note:** If your pan does not have a drain plug, you may wish to install a TCI® Drain Plug Kit 805800, at this time.) The old gasket can cause leaks. Install the oil pan with the new gasket. Install the pan bolts except for the two center bolts on the left side of the pan. Tighten the pan bolts to 8 lbs.-ft. Do not over tighten as this can damage the pan gasket.

**Step 9.** Install the cable bracket in position with the two remaining pan bolts (**See Figure 6**). Install the TCI® lever onto the shaft with the lever pointing down. If your cable comes from the front (usually a rear engine car), the lever is installed pointing upwards. You will have to make your own cable bracket for this installation.

**Step 10.** Route the shifter cable looping it behind the tailshaft mount. Avoid kinks and sharp bends and route the cable away from hot engine or exhaust parts. Manual valve. Note that the pin on selector lever fits in groove on valve Manual valve guide plate Cable bracket Remove the two rubber boots, one large nut, and a large lock washer from the threaded end of the shifter cable. Slide the end of the cable into the cable bracket, install the large nut and lock washer loosely over the end of the cable. Install the two rubber boots onto the end of the cable. Install the swivel on the threaded end of the cable and position it in the center of the threaded portion.

**Step 11.** Move the transmission selector lever by

hand to full rear position (Low). Operate the shifter lever to the Low gear position (all the way back). Adjust the large nuts on the cable so that the swivel will slide into the hole in the selector lever that is labeled 'H' (**See Figure 7**). Tighten the large nuts completely. Be sure that the swivel will slide freely in and out of the hole in the selector lever. **Note:** The shifter will not operate correctly unless the hole marked 'H' in the shift lever is used. Leave the swivel out of the hole and move the selector lever to the Park position (all the way forward). Reinsert the swivel into the hole marked 'H' in the selector lever. Check to see that the swivel will slide freely in and out of the hole marked 'H' in the selector lever in this position. If it does not slip in freely, adjust the swivel slightly until it will slip into the hole marked 'H' in the lever. Move the shifter back to the Low gear position and check that the swivel will still slide easily in and out of the hole marked 'H' in the selector lever. (If you do not use the hole marked 'H' in the lever, it will be impossible to correctly adjust the cable.) Operate the shifter through all the gear positions. Check to make sure the swivel will slide in and out of the hole marked 'H' selector lever hole in each gear position. The shift cable is now correctly adjusted. Install the cotter key supplied with the shifter into the swivel and spread the key ends. If you have a problem, **DO NOT FORCE THE SHIFTER**, this will damage the cable, the shifter, or the transmission. Simply start at the beginning and carefully check all your steps.

### 618012 BACK UP LIGHT SWITCH

Remove the neutral safety switch and switch bracket (**See Figure 8**). Remove the two #4-40 x 5/8" screws through the switch and the bracket. Install the back up light switch on top of the neutral safety switch as shown in **Figure 9**. Install a lock washer and a nut on each screw and tighten snugly. Do not over tighten the nuts as you may crack the switches. Install the switch bracket assembly on the shifter base with a 10-24 x 1/2" pan head screw. If required, you can adjust the switch relative to the switch actuator plate.

### 618003 MOUNTING BRACKET

Screw the quick-release mounting bracket to the floor with three mounting screws. One spacer washer is required between the mounting bracket and the shifter in the location shown in **Figure 10**. The shifter is held onto the bracket with the two quick release pins.

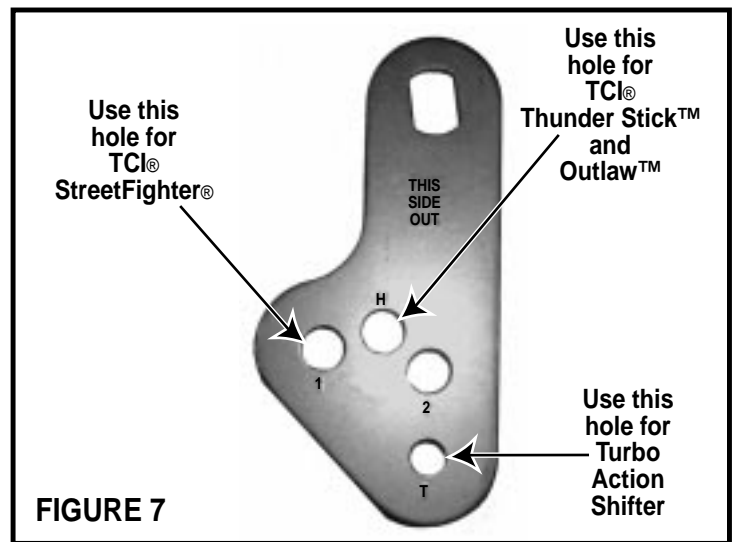


FIGURE 7

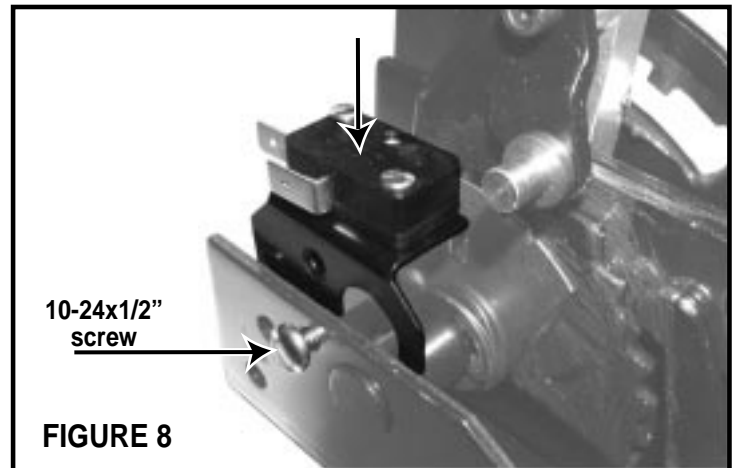


FIGURE 8

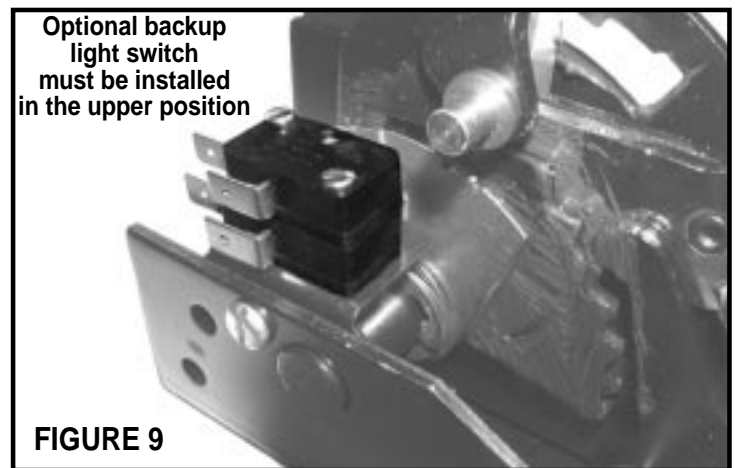


FIGURE 9

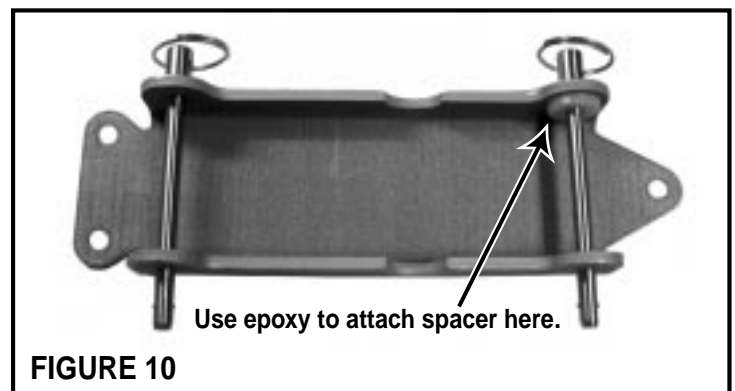


FIGURE 10