

SMITTYBILT X₂0 CLUTCH RELOCATION INSTALLATION INSTRUCTIONS

SAFETY

Your safety is extremely important to us. Working on vehicles has ever-present hazards which require precautions at all times to avoid injury or death. We've outlined some precautions to take below in order to help you make informed decisions about your safety before installing this product. This is not an exhaustive list, and you must use your own good judgment before performing any work in each step of this installation.

ALWAYS:

- wear eye protection
- use tire blocks and emergency brake
- disconnect battery(s)
- use care when moving components
- route electrical cables away from moving parts
- identify all pinch points
- wear gloves
- identify slipping and tripping hazards
- wear steel toe footwear
- understand proper use of tools before use
- work on a flat surface
- use care when lifting components
- insulate cables
- jack your vehicle from the OEM's lifting points
- torque all fasteners to suggested specs
- remove any hazards before starting on the job

LIABILITY

All liability for installation and use of this product rests with the owner. Improper installation, maintenance, and operation can result in serious injury or death as well as equipment or vehicle damage. Use this product at your own risk.

SET UP

1. Read this entire document before performing any work.
2. Gather the tools required, outlined in **Table 1**.

Table 1

Tool List	
○	4mm Allen key
○	Plastic pry tool
○	O-ring grease

DETERMINING LENGTH AND ASSEMBLING (UNASSEMBLED KITS ONLY)

If you ordered a pre-assembled clutch extension kit this section. If you purchased a universal/custom kit then follow the instruction below to determine the appropriate length and ensure that the kit actuates the clutch as intended.



Kit contents:

- Handle adapter- bumper side
- Handle adapter- winch side
 - Bearing block
 - Handle set screw
- Bearing block screws [socket head cap screw for fastening through rear of block] (2X)
 - Bearing block screws [flat head for fastening through front of block] (2X)
 - Hydraulic hose
- Hydraulic hose crimps (2X)
 - O-ring

The clutch relocation kit can extend the clutch between approximately 5" to 18", distances shorter than 5" can be difficult to fit in crimpers (consult your local hydraulic hose shop before deciding on a very short length to ensure they will be able to crimp the fittings).

Lengths greater than 18" can introduce play into the handle and make the action of engaging and disengaging the clutch less precise. It will still work but VICE recommends sticking to less than 18" for best results.

Applications where the clutch mount on the winch and the handle location on the bumper are directly co-axial are preferred, but the flexible hose does allow for misalignment, and even u-shaped applications.

3. With the handle removed from the winch and the VICE relocation handle dry-fit on the winch use the hose to approximate where the handle should locate on your bumper or the body of your vehicle.
4. Determine whether to mount the bearing block on the top face, fastening through the back side of the block, or on the rear of the panel using the flush mount screws. Either is acceptable.
5. Drill holes using the bearing block as a template.
6. Determine the appropriate cut-length of hose allowing for smooth operation of the clutch mechanism. Ensure that the hose will fully seat on the handle adapters to prevent slippage during operation.
 - a. Vice recommends using a set of vice grips to clamp the hose when trying different handle locations and hose radii to allow you to actuate the clutch.
7. Take the assembly to a local hydraulic hose retailer and have them crimp the supplied ends on.
 - a. Ensure that the hose is fully seated on the shank to prevent slippage during actuation.
 - b. Note the "clocking" of the handle and ensure that the handle bolt is oriented correctly for your desired location.

Installation

8. Park your vehicle on flat ground, engage the emergency brake, block the tires, and disconnect the negative battery terminal.
9. Remove the seven (7) 4mm Allen head fasteners shown in **Figure 1**, located on the clutch side of the housing. Note to keep the housing supported when removing the last fastener.
10. Rotate the housing 180 degrees, as shown in **Figure 2**. Note to position the winch so that the clutch handle has clearance to rotate upside down.



Figure 1



Figure 2

11. Reinstall the seven (7) 4mm Allen head fasteners and flip the winch upside down.
12. Remove the clutch handles 4mm Allen head set screw as shown in **Figure 3** and remove the clutch handle.
13. Remove the O-Ring and rubber washer on the clutch handle. It is recommended to use something soft, such as the plastic pry tool seen in **Figure 4** to remove the O-Ring.



Figure 3



Figure 4

14. Install the O-Ring and rubber washer on the VICE Clutch Relocation Cam as shown in **Figure 5** and apply a bit of grease.
15. Install the VICE Clutch Relocation Cam on the winch as shown in **Figure 6** and re-install the 4mm Allen head set screw. Check to make sure the clutch functions properly.



Figure 5



Figure 6

16. After the winch is installed on the truck, install the clutch handle onto the other side of the clutch extension, using the original set screw.