

Rev. D, p. 1 of 16

KAWASAKI TERYX 6' TAPERED PLOW (p/n: TX750-050) Note: This plow requires a winch for operation. A winch is *not* included in this kit.

APPROXIMATE INSTALLATION TIME: 3 to 4 HOURS

IMPORTANT: THIS ACCESSORY WEIGHS **190 POUNDS**. PLEASE ADJUST THE VEHICLE PAYLOAD ACCORDINGLY.



The contents of this manual are the property of the owner. Be sure to leave with the owner when installation is complete.

WARNING

Incorrect loading of your vehicle may result in an unsafe operating condition. Handling characteristics can change as vehicle load increases.

Snow blade will add weight to the vehicle. Deduct the snow blade weight from the vehicle rated gross weight capacity. Travel at reduced speed when blade

NOTICE

If this plow is used with a winch without a mechanical brake, it can move downward while driving when the winch power is off and cause damage to the plow.

This plow must be used with a winch incorporating a mechanical brake.

Multiple U.S. and Foreign Patents Pending

BEFORE YOU START

OPERATIONAL NOTES:

NEVER...

- Operate the plow near pets or other people
- Leave the vehicle running and unattended with plow attached
- Plow or carry plow at high speeds
- Clean or perform maintenance with plow raised
- Clean or service with plow in tripped condition
- Dislodge an obstruction with any part of body
- Transport or plow with lock down tabs unlocked
- Operate the plow over 5mph

ALWAYS...

- Familiarize yourself with the area to be plowed
- Verify that the plow is attached securely
- Travel at reduced speed with plow attached
- Regularly inspect and maintain all components

HELPFUL REMINDERS:

- A. Leave all fasteners loose until instructed to tighten them.
- B. Read and understand all instructions before beginning.
- C. Check carton contents prior to beginning installation.
- D. Work in an organized area large enough to fit vehicle and plow.
- E. Have the required tools ready to speed up the installation time.
- F. Have a helper available to help move heavy parts and assemblies.
- G. Clean the vehicle of any debris before beginning.

MAINTAINANCE NOTES:

- Check and tighten all fasteners in the plow assembly and vehicle mounting after initial use and every 5 hours of use thereafter.
- After every 10 hours of use, lubricate all pivot bolts, pins, snap lock latches, and any other moving parts in the plow assembly with all-season grease.

Tools Required:

Set of standard and metric sockets Set of standard and metric open end wrenches One Phillips Head Screwdriver One 3/8" Drive Ratchet Pliers Wire Cutters and Crimpers Allen Wrench Set File or Burr Removal Device Hack Saw

1. Plow Mount Installation

NOTE: You must have a winch already installed on your vehicle for this plow mount installation. If your vehicle does not have a winch already installed, please refer to your winch's installation instructions to install winch before continuing.

1.1 Per fig. 1.1, remove the factory plastic bumper cover. There are four Phillips-head bolts. Save these bolts for reinstallation later.

1.2 Per fig 1.2, remove the first four 10mm bolts (2 per side) that secure the plastic skid plate to the vehicle frame. Save these bolts for reinstallation later.

1.3 Per figure 1.3, remove the six 10mm hex head bolts that attach the winch mount to the vehicle frame. Discard these bolts - replacement bolts are supplied in your plow kit.

1.4 Locate the plow mount (item 6 on page 15), six 10mm x 30mm hex head bolts, and six 10mm locking washers. Per figure 1.4, orient the plow mount as shown. Pull the plastic skid plate gently towards the ground, allowing enough clearance to slide the plow mount between the frame rails. Insert the plow mount between the frame rails and slide towards the front of the vehicle. Align the bolt holes on the plow mount with the bolt holes on the frame / winch mount. It may be helpful to have one person hold the mount and another line up the holes.

1.5 Install the new bolts into these holes. Use a lock washer under the head of the bolt. Tighten uniformly.

1.6 Reinstall the plastic skid plate using the 4 bolts removed in step 1.2.

Note: Tighten the mounting bolts after the first use and after every 5 hours of use.



Fig. 1.1 Remove Plastic Bumper Cover



Fig. 1.2 Remove Front Skid Plate Bolts



Fig 1.3 Remove (6) Winch Bolts



Fig. 1.4 Install Plow Mount

2. Fairlead Bracket Installation

2.1 Locate the new fairlead bracket and associated hard-ware per fig 2.1

2.2 Per figure 2.2, unbolt the fairlead from the stock fairlead mount on the vehicle. Discard these bolts, replacement bolts are supplied in your plow kit. You do not need to remove the fairlead from the wire rope. Drape fairlead and wire rope between bracket tabs as shown in fig. 2.2.

2.3 Attach the new fairlead bracket per fig. 2.3 to the upper bumper cross brace. Align the holes on the bracket with the holes in the bumper and loosely install two $3/8-16 \times 1$ " hex head bolts and two Nylock nuts, using a 3/8" washer under the head of the bolts. Align the lower holes of the new fairlead bracket with the holes on the stock fairlead mount. Note that the bracket sits on the front side of the stock fairlead mount (away from the grill). Reinstall the fairlead using two $3/8-16 \times 1.25$ " hex head bolts and two Nylock hex nuts. Use a 3/8" washer under the head of the bolts. Align the grill washer under the head of the bolts.

2.4 Per fig. 2.4, trim the plastic bumper cover on both driver and passenger side as shown. Note: the dimensions in fig. 2.4 are: 2" x 2-1/2". Reinstall the plastic bumper cover. Use the original hardware removed in step 1.1 in the upper two holes. Use new longer M6 x 1.0 x 16mm bolts in the lower two holes. Be sure that the original washers are installed under the bolt heads.



Fig. 2.1 Fairlead Bracket and Hardware



Fig. 2.2 Remove Winch Fairlead



Fig. 2.3 Install New Fairlead Support Bracket



Fig. 2.4 Trim Plastic Bumper Cover

3. Limit Switch Installation

3.1 Locate the limit switch, limit switch bracket, and associated hardware per fig 3.1. The limit switch electronically stops the plow blade from over -lifting. When the plow is lifted, the wire rope will travel upward until it touches the limit switch arm, stopping the winch from pulling any further.

3.2 Orient the limit switch bracket as shown in figure 3.2. Loosely mount the switch to the bracket as shown using two #4-40 x 1" socket head cap screws and Nylock nuts. Use a washer under the head of the bolts. Do not tighten the assembly - this step will be completed later in the installation (step 12.3). Uncoil the wire harness and attach the spade connectors to the outer terminal posts on the switch as shown. The middle terminal is not used. Note: connection order is unimportant.

3.3 Bolt the limit switch assembly to the mounting hole on the new fairlead bracket as show in fig. 3.3. Use a $1/4-20 \times 1$ " hex head bolt with a Nylock hex nut. Use a washer under the head of the bolt. While tightening the bolt, be certain to hold the limit switch bracket so that it remains perpendicular to the ground.



Fig. 3.1 Limit Switch Bracket and Hardware



Fig. 3.2 Assembled Limit Switch



Fig. 3.3 Limit Switch Mounted on Fairlead Bracket

3.4 Run the limit switch wire harness back to the winch control solenoid. (Note: the location of the winch solenoid may vary depending on winch installation. Use careful discretion while running the wire harness to the solenoid. Be certain to keep harness away from any moving parts or components that generate heat. Use cable ties along the way to keep harness away from potential hazards.)

3.5 Consult your winch manual for a wiring schematic. Find the wires that run to the remote winch control (the "in" and "out" switch that operates the winch). Determine which wire controls the "in" direction of the winch (many manufacturers use a green wire for the "in" direction—this installation manual assumes your winch "in" control wire is green) See fig. 3.5.

3.6 Note: Bullet connector sizes may vary depending on the winch manufacturer. Disconnect the green remote winch control wire from the solenoid wire as shown in figure 3.5. Examine the bullet connectors on the green wires — if they're not the same size as the connectors on the limit switch harness, new bullet connectors must be installed. Bullet connectors that match the limit switch harness are included with the limit switch hardware kit. Cut the male bullet connector off the green wire connected to the winch solenoid. Strip the wire and install the correct size male bullet connector. Cut the female bullet connector off the green wire connected to the remote winch control. Strip the wire and install the correct size female bullet connector.

3.7 Per fig 3.5, connect the female bullet on the green wire from the remote winch control to the male bullet on the limit switch harness. Connect the male bullet attached to the green solenoid wire to the female bullet on the limit switch harness.

3.8. Test the limit switch. Refer to your winch owner's manual for proper winch operation. (**Be careful!**—it may be helpful to have one person operate the winch and another person activate the limit switch). Turn the vehicle main switch to "OFF". Set the winch to freewheel and pull out a few coils of wire rope. Re -engage the winch. Turn the vehicle main switch to "ON". Press the winch "in" button to retract the wire rope. While retracting the wire rope, flex the spring arm on the limit switch using a stick or ruler. Do not use your fingers to flex the spring arm. The winch should stop pulling the wire rope in until you release the spring switch arm. Turn the vehicle main switch to "OFF".

3.9. The plow mount portion of the installation is now complete. Next you will assemble the moldboard, trip-frame, and A -frame.

WARNING

The wire rope may cause severe injury or loss of fingers.

Do not hold the wire rope under any circumstances. Keep fingers away from the wire rope and fairlead rollers when operating the winch.



Fig. 3.5 Location of "in" Winch Control Wire

4. Installation of Adapter Plates

4.1 Per figs 4.1 and 4.2, locate the trip frame adapter plates, trip frame, and associated hardware. Fig 4.1 shows the hardware required for one adapter plate installation.

4.2 Orient the trip frame per fig 4.2. Overlay one trip frame adapter plate to matching bolt holes. Per fig. 4.3, install one $1/2-13 \times 2$ " hex head bolt and two $1/2-13 \times 1 \times 1/2$ " hex head bolts at the indicated locations with the bolt heads on the outside as shown. Install under the nut a flat washer first, then a lock washer. Tighten nuts. Repeat step 4.2 for the opposite side of the trip-frame.



Fig. 4.1 Trip Frame Adapter Plate and Hardware



Fig. 4.2 Trip Frame



Fig. 4.3 Installed Trip Frame Adapter Plate

5. Trip Frame to Moldboard Assembly

5.1 Lie the moldboard down on its face. Position the trip frame assembly atop the moldboard assembly per fig. 5.1. Align the bolt holes on moldboard ribs 2 and 4 with the bolt holes on the trip frame adapter plates. *Note: position the trip frame with the trip stop tabs pointing towards the ground per fig. 5.1. Line up the holes as shown in fig 5.1.*

5.2 Locate two 1/2-13 x 2" bolts, six 1/2" fender washers, and two 1/2-13 Nylock locking nuts. Apply all-season grease to the mating surfaces on the trip frame and mold-board rib. Install into the mounting holes a 1/2-13 x 2" bolt with a washer under the head of the bolt, a washer sand-wiched between the trip frame adapter plate and the mold-board rib, then a washer and a nut. Repeat installation of hardware for the other location, orienting the bolt head to face away from the center of the moldboard. Fig 5.2 details the bolt, washer, and nut installation. Tighten the Ny-lock nuts until all thread slack is removed from the assembly while allowing the trip-frame to rotate freely.

Note: Figure 5.2 shows the hardware in an un-tightened state.



Fig. 5.1 Trip Frame to Moldboard Assembly



Fig. 5.2 Detail of Hardware Installation



Fig. 6.1 Trip Springs and Hardware

6. Trip Spring Installation

6.1 Per fig 6.1, locate the two trip springs, two eyelet bolts, two 3/8-16 hex nuts, two 3/8-16 Nylock hex nuts, and four 3/8" washers. Install a 3/8" hex nut (not Nylock) followed by a 3/8" washer onto each eyebolt. Thread the nut approximately 3/4 of the way down the length of the eyebolt and allow the washer to rest on top of the nut.

6.2 Per fig 6.2, hook one end of the trip spring through the lower trip spring mount. Hook the eyebolt on the other end of the spring and insert the threaded section up through the hole in the upper spring mount per figure 6.3. Install a 3/8" washer, then a 3/8" Nylock hex nut on the eyebolt. Repeat above for the second trip spring.

6.3 Set the spring tension by tightening the Nylock nut until a sheet of paper can slide between two coils on the spring. Be sure to set tension evenly in both springs. Tighten the previously installed 3/8" hex nut on the eyebolt against the bottom of the upper spring mount to lock the eyebolt into position. See fig. 6.3.

Note: The trip springs must be re-adjusted after the first use and after every 5 hours of use.



Fig. 6.2 Lower Trip Spring Perch



Fig. 6.3 Spring Upper Attachment



Fig. 7.1 A-Frame and Hardware

7. A-Frame Installation

7.1 Per fig 7.1, locate the A-frame, blade angle handle, handle spring, one $1/2-20 \times 3.5$ " hex head bolt, one 1/2-20 conical locking hex nut, and two 1/2" washers. Apply all-season grease to the top and bottom surface of the A-frame around and in the 1/2" bolt hole. Grease should extend about an inch away from the center of the hole.

7.2 Per fig. 7.2, slide the A-Frame into the trip frame pocket, aligning the 1/2" bolt holes on both assemblies. Install the 1/2-20 x 3.5" hex head bolt with a 1/2" washer under the head of the bolt and under the lock nut. Tighten until all slack is removed from the bolt while the A-frame is allowed to rotate freely in the trip frame pocket.

7.3 Install the blade angle handle. For easiest installation, be certain A-frame is oriented as in fig 7.3, with the trip frame blade angle slot aligned with the A-frame angle slot in the center position. Orient the blade angle handle so that the spring and handle point away from the moldboard, per fig.7.3

7.4 Per figs. 7.3 and 7.4, slide blade angle handle and spring into blade angle slot, being certain to capture lower A-frame plate between the angle handle roll pins.



Fig. 7.2 Install A-Frame into Trip Frame Pocket



Fig. 7.3 Blade angle handle oriented correctly

spring away from moldboard and engage the spring hook into the retaining slot of the upper A-frame plate.

7.6 To rotate blade to any of the four possible angled positions, pull the handle towards the moldboard (away from the front of the vehicle) until the handle clears the uppermost blade angle slot. Rotate the plow into the desired position and release the handle. Be certain the blade angle handle is re-engaged in the uppermost slot. Wiggle the moldboard to test engagement of the handle.



Fig. 7.4 Blade angle handle



Fig. 7.5 Blade angle handle installed

7.5 Per fig 7.5, with a pair of pliers stretch the handle

8. Skid Shoe Installation

8.1 Per fig. 8.1, locate the left side skid shoe bracket, ten 1/2" fender washers, three $3/8-16 \times 1$ " hex head bolts, three 3/8-16 Nylock hex nuts, three 3/8" washers, one skid shoe, one clevis pin, and one 1"O.D. x 1.25" long steel spacer.

8.2 Per fig. 8.2, on the lower left end of the moldboard towards the cutting edge (looking from behind the moldboard) locate the three 3/8" skid shoe mounting holes. Align the skid shoe bracket holes with the mounting hole on the moldboard and install the three 3/8-16 bolts and Nylock nuts. Use a washer under the head of the bolts. Slide several washers onto the skid shoe shaft and install the spacer to sit on top of the washers. Slide the entire skid shoe assembly into the 1/2" skid shoe bracket hole from the bottom and secure in place with a clevis pin at the top. Add or remove washers until desired cutting edge height is achieved. Any remaining washers can be stored on the top of the skid shoe bracket for future use as the cutting edge wears. Repeat steps 8.1 and 8.2 for the right skid shoe and bracket.



Fig. 8.1 Left skid shoe and hardware



Fig. 8.2 Installed skid shoe bracket and skid shoe

9. Chain/Winch Shackle Installation

9.1 Locate the winch hook shackle per figure 9.1

9.2 Per fig. 9.2, insert the clevis pin on the winch hook shackle into the lifting hole on the trip frame. Close the shackle by threading the clevis pin into the threads on the opposite side of the shackle.



Fig. 9.1 Winch Hook Shackle



Fig. 9.2 Shackle installed on Trip Frame

10. Blade Marker Installation

10.1 Per fig. 10.1, locate the blade marker kit.

10.2 Per fig 10.2, find the blade marker mounting holes on upper portion of rib five of the moldboard frame.

10.3 Align the holes on the blade marker with the holes on the moldboard rib. Install two 5/16" hex head bolts and two Nylock hex nuts supplied in the blade marker kit. Use a 5/16" washer under the head of the bolt. Repeat steps 10.2 and 10.3 to install the blade marker on the opposite side of the moldboard (rib 1).



Fig. 10.1 Blade Marker Kit



Fig. 10.2 Installed Blade Marker

11. Operation of Quick-Attach Handle

11.1 The A-frame handle serves two purposes when operated: a) it provides a comfortable grip area to lift the plow into position for mounting, and b) it rotates the lower mount hook into the open position.

Per figure 11.1, rotate the secondary locking tabs into the "up" position, which is 90 degree rotated from the "closed" position (please see figure 11.3.1, which shows secondary tab in "closed position") Place your hand on the A-frame handle as shown. Push the A-frame handle towards the ground, compressing the rubber spacers. This will remove pressure from the main lock down tabs and allow them to rotate freely. Rotate the main lockdown tabs towards the center of the A-frame.

11.2 Per figure 11.2, lift the handle until the lower mount hooks are fully opened. The plow can easily be moved into position with the A-frame handle fully opened.

11.3 Per figure 11.3, lift the plow with the A-frame handle and engage the upper mount hooks on the plow mount installed on the vehicle. Push the A-frame handle towards the ground to close the lower hooks. Apply slight downward pressure to the handle and rotate the main and secondary lockdown tabs into the closed position (away from center of A-Frame), shown in figure 11.3.1.

11.4 Attach the winch / chain hook onto the shackle previously installed on the trip frame (see fig. 9.2 on pg. 11).

If lock tabs are not fully latched (4 tabs), the plow can become detached from the vehicle during operation, causing injury or death.

Fully engage all 4 lock tabs each time the plow is attached to the vehicle. Engage the main lock tab (horizontal) on each side, then engage the secondary lock tabs (vertical).



Fig. 11.1 A-Frame Handle Operation



Fig. 11.2 A-Frame Handle Fully Opened



Fig. 11.3 Mount Bar on Vehicle



Fig. 11.3.1 Tab Shown Fully Closed

12. Final Plow Setup

NOTE: It is highly recommended that you purchase a synthetic winch rope from your winch manufacturer for use with winch activated snow plows. While the steel wire rope can be used, the synthetic rope is better suited for plow lifting as binding and stretching of the wire rope is less likely to occur.

12.1 Per figure 12.1, adjust the spring perch on the coil over shocks to their highest (stiffest) setting. Please follow your vehicle owner's manual for adjustment procedures.

12.2 Fully angle the plow blade to the right (passenger's side) using the blade angle selector on the plow A-frame.

12.3 Tighten the limit switch bolts so that the limit switch is centered in the bracket slots, per fig. 12.3.

12.4 NOTE: Refer to your winch owner's manual for proper winch operation. With the blade in center position, very carefully lift the plow until the limit switch stops the plow. Per fig 12.4, measure the distance from the cutting edge to the ground. This distance should be roughly 5". If you'd like the plow to lift higher or lower, raise or lower the limit switch in the slots until the switch stops the plow at the desired height. Avoid lifting the plow high enough to damage your vehicle. Check for sufficient clearance to vehicle with the plow at all five angle positions.

12.5 The plow is ready for use. Keep your vehicle speed to no greater than 5 mph. You should always plow in low gear to prevent damage to your vehicle. Refer to your vehicle's owner manu-

NOTICE

Lifting the plow too high may cause damage to the front of the vehicle.

Avoid lifting the plow high enough to damage your vehicle. Check for sufficient clearance to vehicle with the plow at all five angle positions.

al for 4-wheel drive operation. Always perform scheduled maintenance on your vehicle and plow to ensure proper operation.



Fig. 12.1 Shocks Set to Stiffest Setting



Fig. 12.3 Limit Switch Centered in Slots

WARNING

The wire rope may cause severe injury or loss of fingers.

If the wire rope becomes out of position with respect to the switch during operation, DO NOT grasp the wire rope to rearrange it. Turn the vehicle main switch to "OFF". Following the winch manufacturer's instructions, disconnect the winch hook from the plow, attach the winch strap to the hook, then using the winch strap to maneuver the wire rope, pull it out straight and position it correctly. Reattach the winch hook to the plow and resume plowing.



Fig. 12.4 Lifted Plow Blade Ground Clearance



PART	DESCRIPTION	PART NUMBER	QUANTITY
1	Limit Switch Bracket	8SV-LSB-B5	1
2	Limit Switch Wire Harness	ULS-WH	1
3	Fairlead Reinforcement Bracket	8SV-KTFRB-B5	1
4	Limit Switch Hardware Kit	UTPULS-HWK	1
5	Limit Switch	ULS-SWITCH	1
6	Plow Mount	8SV-KTPM-B5	1
7	Plow Mount Hardware Kit	KTTPM-HWK	1



PART	DESCRIPTION	PART NUMBER	QUANTITY
1	Cutting Edge (Steel)	KAF25-039E	1
2	Poly Moldboard Skin (Orange)	1TBP124-72TP	1
3	Blade Marker Kit (Set of 2 w/ hardware)	1TBP37	1
4	Moldboard Frame Assembly	8SV-MBF-B5	1
5	Skid Shoe Bracket (Left)	8SV-SSBL-B5	1
6	Skid Shoe Bracket (Right)	8SV-SSBR-B5	1
7	Skid Shoe (sold separately, not as a pair)	KAF25-039S	2
8	Trip Frame	8SV-KAF04W-B5	1
9	A-Frame Body	8SV-AFB-B5	1
10	A-Frame Lock Down Tab (Left)	8SV-AFLDT1L-B5	1
11	A-Frame Lock Down Tab (Right)	8SV-AFLDT1R-B5	1
12	Secondary latch	8SV-AFLDT2-B5	1
13	A-Frame Handle	8SV-AFHN-B5	1
14	Angle Latch Bracket	8SV-KAF19A-B5	1
15	Angle Latch Spring	KAF25-039P6	1
16	Angle Latch Handle	8SV-KAF10-B5	1
17	Trip Spring (sold separately, not as a pair)	KAF25-039SP	2
18	Trip Frame End Plate	8SV-TFEP-B5	2
19	Tapered Moldboard Hardware Kit	UTPMBAT-HWK	1
20	A-Frame Hardware Kit	UTPAF-HWK	1
21	Skid Shoe Hardware Kit	UTPSSA-HWK	1