



OWNER/OPERATOR'S MANUAL & PARTS LIST

KV550 V-BLADE



Get Attached... Get it DONE!!!

REVISED 02/05/20
09.10028



Orrville, OH
www.ventrac.com

TO THE OWNER

Product Identification

If you need to contact an Authorized Ventrac Dealer for information on servicing your product, always provide the Product Model and Serial numbers.

Please fill in the following information for future reference. See picture below to find the location of the identification number. Record them in the spaces provided below.

Date of Purchase: Month _____ Day _____ Year _____

Dealer: _____

Dealer Address: _____

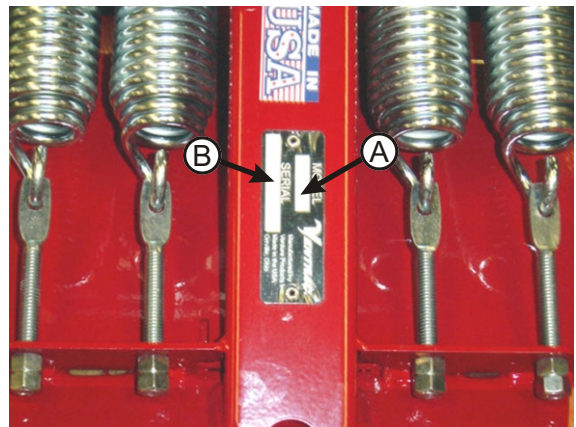
Dealer Phone Number: _____

Dealer FAX Number: _____

Model # (A): _____

Serial # (B): _____

Affix Part/Serial Number label here



Ventrac Products Inc. reserves the right to make changes in design or specifications without obligation to make like changes on previously manufactured products.

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INTRODUCTION

Product Description KV550 V-Blade

The KV550 V-Blade is designed for use on any Ventrac power unit and has all the capabilities of a conventional blade with the added versatility of being able to sweep both wings back for single pass clearing of sidewalks or sweeping both wings forward to easily clear large areas without the need for repeated clean-up passes.

Through the auxiliary control lever on the Ventrac power unit, each blade wing is able to angle forward or backward up to 30 degrees with infinite variability, each wing is independently controlled with a 12V electro-hydraulic valve activated by a toggle switch on the power unit.*

Options include:

- 6" Wide Top Flare Extension
- 6" Straight Edge Extension
- 6" Extension With 6" Top Flare
- Snow Containment Flap (Rubber)
- Polyurethane Cutting Edge

* To operate the KV550 V-Blade, the power unit must be equipped with one of the following 12V switch and plug kits:

<u>Model</u>	<u>Kit Number</u>
3000 - Serial Number HBA1347 and higher	70.3007
3000 - Serial Number HBA1346 and lower	70.3008
3100/3200.	70.3016
4100/4200.	70.4039
4000.	70.4046

Ventrac KV550 Specifications

Height Overall	24 inches
Length	33 inches
Width - Straight	55 inches
- Straight with 6" Extension Option	67 inches
- "V" Forward/Backward	48 inches
- "V" Forward/Backward with 6" Extension Option	57 inches
Weight.	240 pounds
Blade wing height	20 inches
Angling - Left and Right Blade	30 degrees forwards & backwards
Skid Shoes	Adjustable
Cutting Edge	Reversible/Hardened

Venture Products, Inc. reserves the right to change these specifications without notice.

SAFETY



ATTENTION:

This symbol identifies potential health and safety hazards. It marks safety precautions. Your safety and the safety of others is involved.

SIGNAL WORD DEFINITIONS

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme cases.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and/or property damage. It may also be used to alert against unsafe practices.

SAFETY

The following decals must be maintained on your Ventrac attachment. If any decals are faded or missing, contact your dealer promptly for replacements.



A



B

Decal	Page & Location	Description	Part Number
A	E-3, #8	Read Owners Manual	00.0217
B	E-3, #1 (2)	Warning - Pinch Point	00.0218

SAFETY



General Safety Procedures for Ventrac Tractors, Attachments, & Accessories



Read and understand the operator's manual before operating this equipment.

Observe and follow all safety decals.

DO NOT let children or any untrained person operate the tractor or attachment. Make sure that all operators of this equipment are thoroughly trained in using it safely.

Never allow additional riders on the tractor or attachments.

DO NOT operate tractor or attachments if you are under the influence of alcohol, drugs, medication that may impair judgment or cause drowsiness, or if you are not feeling well.

Operate all controls from the operators seat only.

Before operating equipment, make sure all shields are in place and fastened.

Ensure the attachment or accessory is locked or fastened securely to the tractor (power unit) before operating. See tractor manual for locking procedure.

Ensure that all bystanders are clear of the tractor and attachment before operating. Be especially careful and observant if other people are present. Never assume that bystanders will remain where you last saw them.

Always look in the direction the tractor is moving.

Never direct the discharge of any attachment in the direction of people, animals, buildings, vehicles, or objects of value.

Immediately stop at any sign of equipment failure and correct the problem before continuing to operate. An unusual noise can be a warning of equipment failure.

Before adjusting, cleaning, lubricating, or changing parts on the tractor or attachment, engage the parking brake, lower the attachment to the ground, stop the engine, and remove the ignition key.

To prevent the risk of uncontrolled equipment movement on tractors equipped with 2 speed axles, always shift the transaxle range with the tractor stationary on level ground and with the parking brake engaged.

If equipment is to be left unattended, stop the engine, remove the key, and make sure the parking brake is engaged.

SAFETY

KV550 Safety Procedures

WARNING

Before making any repairs or adjustments, lower attachment to the ground, set parking brake, shut the engine off, and remove the key.

WARNING

Read and understand the operator's manual before operating this equipment.

- Operators should be familiar with the area they are clearing and make preparations ahead of time. Place guide stakes appropriately, remove stones, markers, or other debris that may be hidden after a snowfall. Curbs, offsets, steps, man hole covers, broken or raised pavement, etc. should be noted. Operators should map areas to be cleared before the winter season so they can review potential hazards prior to clearing snow in the area.
- If an area is to be cleared that is unfamiliar to the operator, travel slowly and use **EXTREME CAUTION**. Inquire of anyone who might know of potential hazards.
- The operator should never proceed if visibility is poor. If the tractor is equipped with a cab the windshield must be kept clean.
- Use caution when operating around objects that can obstruct your vision.
- Never travel at speeds that would cause injury to the operator or damage to the machine, if the machine were to be stopped suddenly by an unseen, immovable object.
- Always operate the blade with the safety trip mechanism in the unlock position, unless digging in dirt at very low speeds. (See C-4, Ref 1&2, Operation.)

SETUP

⚠ WARNING

Before making any repairs or adjustments, lower attachment to the ground, set parking brake, shut the engine off, and remove the key.

If a function requires the tractor to be running, only operate while sitting on the seat.

Leveling the Blade – Side to Side

1. Make sure that the tractor tires are inflated to the correct pressure.*
2. With the blade attached to the tractor and the tractor on a level surface, move the right and left blade wings to the straight position (both sides perpendicular to the tractor.) (See page C-3 , Operation for attaching.)
3. If the tractor is equipped with a weight transfer, release the weight transfer system.*
4. Lower the V-Blade to the ground and place the tractor's front lift in the float position.
5. Check to see if the cutting edges are making even contact with the ground. If they are not, raise the blade all the way up and support with safety stands. Loosen the five 1/2" bolts that fasten the center pivot frame (page E-1/ ref. 7) to the center pivot shaft (page E-1/ ref. 20) and to the center skid shoe. (page E-1, ref. 19)
6. Sliding the bottom of the center pivot frame left or right in relationship to the center pivot shaft will raise or lower the outside corners of the blade wings. Moving the bottom to the right will raise the right side of the blade and lower the left side and moving it to the left will do the opposite. It may be helpful to use a jack or hoist to pick up the appropriate side of the blade and then tighten the bolts that were loosened in step 5.
7. Repeat steps 4 and 5. If blade is still not level repeat step 6.
8. Once the blade is level, tighten the hardware that was loosened to 80 ft-lb.

***NOTE: See Tractor Operators Manual**

SETUP

Leveling The Blade – Front to Rear

1. Make sure that the blade is level side to side. (See page C-1, Setup)
2. With the blade attached to the tractor and the tractor on a level surface, move the right and left blade wings back into the V position.
3. If the tractor is equipped with a weight transfer, release the weight transfer system.*
4. Lower the V-Blade and place the tractor front lift in the float position.
5. Check to see if the cutting edges are making even contact with the ground. If they are not, loosen the adjusting bolt jam nut (page E-1/ref. 8).
6. Turn the adjusting bolt in or out depending on which way the blade needs adjusted. Turning the bolt in will lower the outside corners of the blade and turning it out will do the opposite.
7. Once the cutting edges are making even contact with the ground, tighten the jam nut to 100 ft. Lbs.
8. Loosen the two 1/2" bolts holding the lockout plate (page E-1/ref. 13) to the hitch frame and slide the plate in the mounting slots until the lockout hole is aligned with the hole in the hitch frame. Use the lockout pin (page E-1/ref. 11) to make sure the holes are lined up and that the pin can be installed.

Adjusting The Skid shoes

1. Make sure that the blade is level side to side. (See page C-1, Setup.)
2. With the blade attached to the tractor and the tractor on a level surface, move the right and left blade wings to the straight position (both sides perpendicular to the tractor.) (See page C-3, Attaching.)
3. If the tractor is equipped with a weight transfer, release the weight transfer system.*
4. Lower the V-Blade to the ground and place the tractor front lift in the float position.
5. Loosen the bolts holding the skid shoes and slide the skid shoes down until they contact the ground. Re-tighten the bolts to 35 ft-lbs.

Note: If blade is to be used on gravel the shoes can be set lower than the cutting edge to keep gravel displacement to a minimum. To set the shoes lower than the cutting edge, place an appropriate spacer of the desired thickness under the cutting edge before lowering the blade to the ground. Loosen the skid shoe mounting bolts and slide the shoes down until they touch the ground. Re-tighten the mounting bolts to 35 ft-lbs.

***NOTE: See Tractor Operators Manual**

OPERATION

Attaching:

1. Drive the tractor forward slowly into the hitch arms of the blade. Align the hitch arms with the blade arms by raising or lowering the front hitch and complete the engagement.
2. Once completely engaged, close the front hitch latch.*
3. Set the parking brake, shut off the tractor engine, and remove the key.*
4. Wipe the ends of the hoses clean and connect to the tractor's hydraulic quick couplers.* If equipped, connect the hoses and quick couplers so the red indicators are paired together and the yellow indicators are paired together.
5. Connect the 12V. plug to the outlet mounted just above the hydraulic quick couplers. NOTE: To be able to use the V-Blade, the tractor must be equipped with the 12V switch and plug. If it is not equipped with this kit, see your servicing Ventrac Dealer. (Refer to page A-1, for correct kit number.)
6. "Weight Transfer System" may be used. Adjust so that blade will go down in the float position.*

Detaching:

1. Park the tractor on a level surface and set the parking brake.*
2. Lower the blade to the ground and retract both blade wings to the back position.
3. Shut off engine and remove key.
4. Disconnect the 12V plug from the outlet.
5. Move the auxiliary control lever side to side several times to release any hydraulic pressure in the hoses connected to the quick couplers.

Note: This will help prevent difficulty in connecting the hoses the next time the V-Blade is attached to the tractor.

6. Disconnect the hydraulic hoses from the quick couplers and insert them through the chain hook hole on the hitch frame to keep them out of the dirt.*
7. Disengage hitch latch.*
8. Restart the tractor and slowly back away from the blade.

***NOTE: See Tractor Operators Manual**

OPERATION

Spring Safety Trip Mechanism

The KV550 blade is equipped with a spring safety trip mechanism. This helps prevent sudden unexpected stops caused when contact is made with uneven sidewalk joints, rocks, or other immovable objects. The spring safety trip mechanism is unlocked when the pin is in the outer storage hole (see figure 1.) For heavy dozing, the pin can be installed in the lockout hole, locking the spring safety trip mechanism (see figure 2.) This position is recommended only for digging or scrapping at a very slow speed.



Figure 1

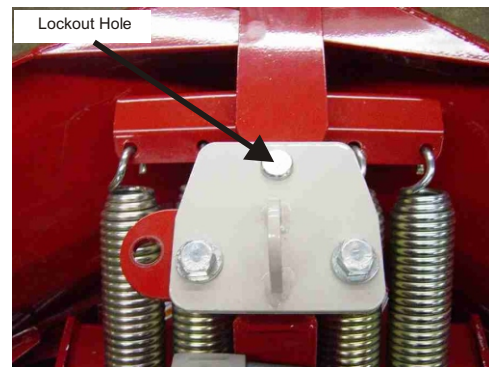


Figure 2

⚠ CAUTION

The V-Blade will not trip with the pin in the Lockout hole!!

⚠ CAUTION

On power units with a 2 speed transaxle, always use Low when the blade is in the locked position.

Tips and Technique's

- Each blade wing may be angled independently of the other. The wings can be angled from 30° forwards, to 30° backwards.
- Each blade wing is controlled with a 12V solenoid valve on the blade. To select which blade wing is to be operated, simply change the position of the switch on the tractor. Then move the auxiliary lever until the blade reaches the desired angle.
- The V-Blade is equipped with adjustable skid shoes to allow ground clearance of different heights. They can be adjusted high enough to allow the cutting edge to scrape the surface being cleared or adjusted down to reduce the amount of displaced gravel during snow removal.
- If the skid shoes are used to determine the depth of dozing, use the float position.
- Prior to dozing, ensure the work area is clear of obstacles, hazards, and personnel.
- Down pressure may be used for digging or cleaning a hard surface, however, the tractor's steering ability may be reduced.
- Back dragging is ideal to spread loose material.
- Always lower the blade to the ground and retract both blade wings to the back position, when not in use. This keeps the hitch arms up for attaching.

MAINTENANCE/ADJUSTMENTS

BEFORE EACH USE

1. Check for loose, missing, or damaged parts.

EVERY 25 HOURS

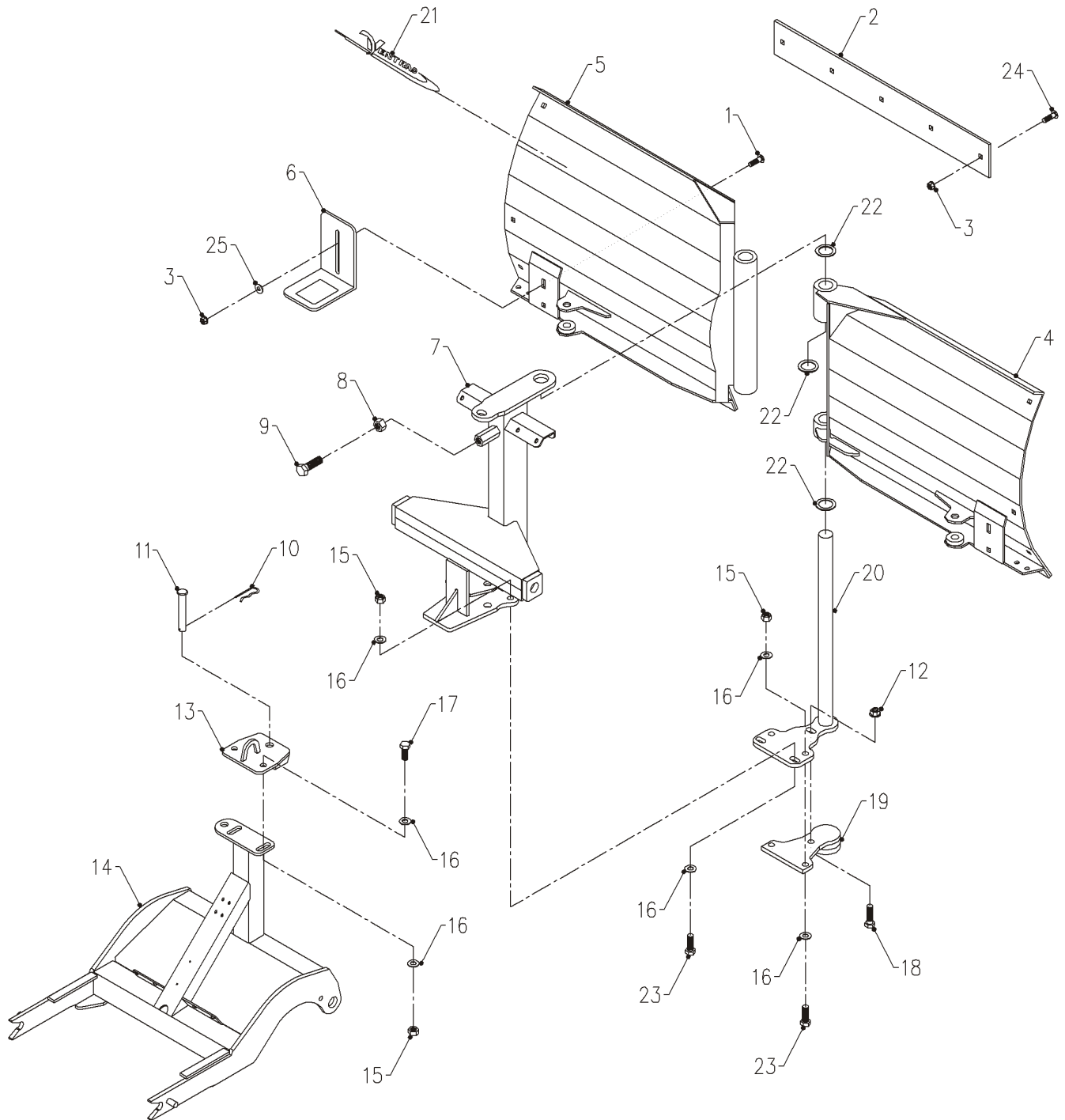
1. Oil the center hinge pin (page E-1/ref. 20) at each pivot bushing joint and at the top of the pin with any weight or grade of engine oil, or a penetrating lubricant.
2. Oil the safety trip pivot shaft (page E-3/ref. 11) on both sides where it goes through the center connecting frame (page E-3/ref. 2) with any weight or grade of engine oil, or a penetrating lubricant.
3. Grease each end of the hydraulic cylinders. Grease each joint until grease comes out top and bottom of the cylinder pivots.
4. Check for loose or missing hardware.
5. Check cutting edges for wear. Once the cutting edges wear down close to the blade structure, they will need reversed. Once both sides of the cutting edge are worn, they will need replaced. Always reverse or replace both cutting edges at the same time.

Note: If the blade is used extensively in the scooped forward position or in the left or right angled positions it is normal for the forward corners of the cutting edge to wear faster than the rest of the edge. To help minimize this effect make sure the blade is level side to side and that the skid shoes are adjusted properly. See set up procedure page C-1)

6. Check skid shoes for wear. Adjust or replace as needed. Shoes should be replaced once 75% of the wear surface thickness is worn away.
7. Check the center skid plate for wear (page E-1/ref. 19). Replace as needed or with every cutting edge replacement.

PARTS

ILLUSTRATED DRAWING BLADE & FRAME



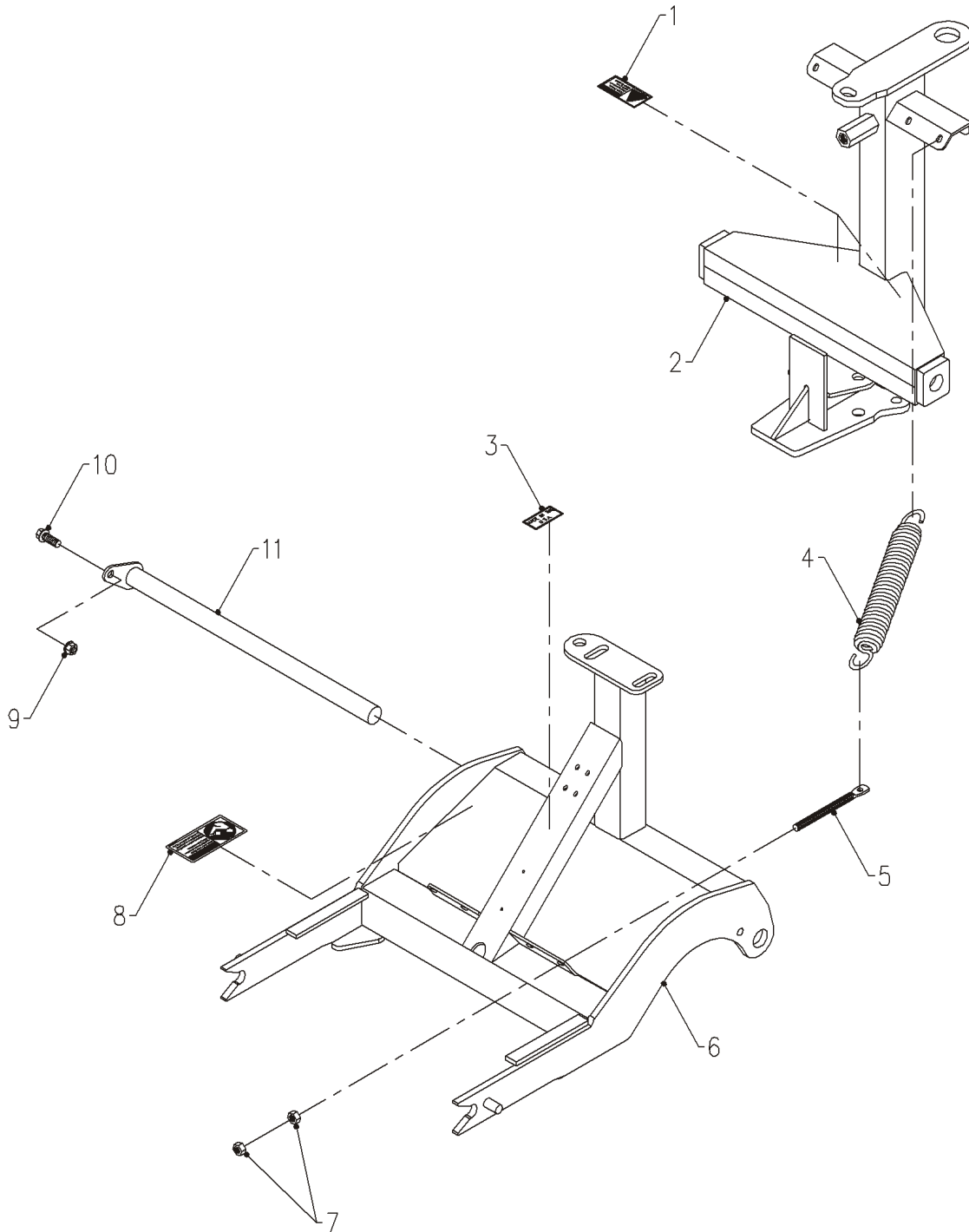
PARTS

BLADE & FRAME

REF.	PART NO.	DESCRIPTION	QTY.
1	97.0608	3/8-16 x 1 Carriage Bolt	4
2	78.0055	Cutting Edge, Hardened	2
3	99.SF06	3/8-16 Flange Nut	14
4	62.1022	Right Wing Frame (Serial # 1003-1124)	1
	62.1250	Right Wing Frame (Serial # 1125 -)	1
5	62.1023	Left Wing Frame (Serial # 1003-1124)	1
	62.1251	Left Wing Frame (Serial # 1125 -)	1
6	64.0677	Skid Shoe	2
7	62.1025	Center Cylinder Mount Frame (Serial # 1003-1124)	1
	62.1252	Center Cylinder Mount Frame (Serial # 1125 -)	1
8	99.E0076	5/8-11 Jam Nut	1
9	90.1016	5/8-11 x 2 Bolt	1
10	02.HP0416	1/8 x 2 Hairpin	1
11	03.1020	5/8 x 2-1/2 Clevis Pin	1
12	99.SF08	1/2-13 Flange Nut	1
13	64.1134	Safety Trip Lock Plate	1
14	62.1024	Hitch Frame	1
15	99.A08	1/2-13 Lock Nut	6
16	95.08	1/2 SAE Flat Washer	12
17	90.0810	1/2-13 x 1-1/4 Bolt	2
18	90.0814	1/2-13 x 1-3/4 Bolt	1
19	64.1135	Center Skid Plate	1
20	80.0351	Center Hinge Shaft	1
21	00.0189	Decal, Ventrac	1
22	99.B0078	14 ga. x 1-1/4 Mach. Washer	3
23	90.0812	1/2-13 x 1-1/2 Bolt	4
24	97.0610	3/8-16 x 1-1/4 Carriage Bolt	10
25	94.05	5/16 USS Flat Washer	4

PARTS

ILLUSTRATED DRAWING SPRING SAFETY TRIP



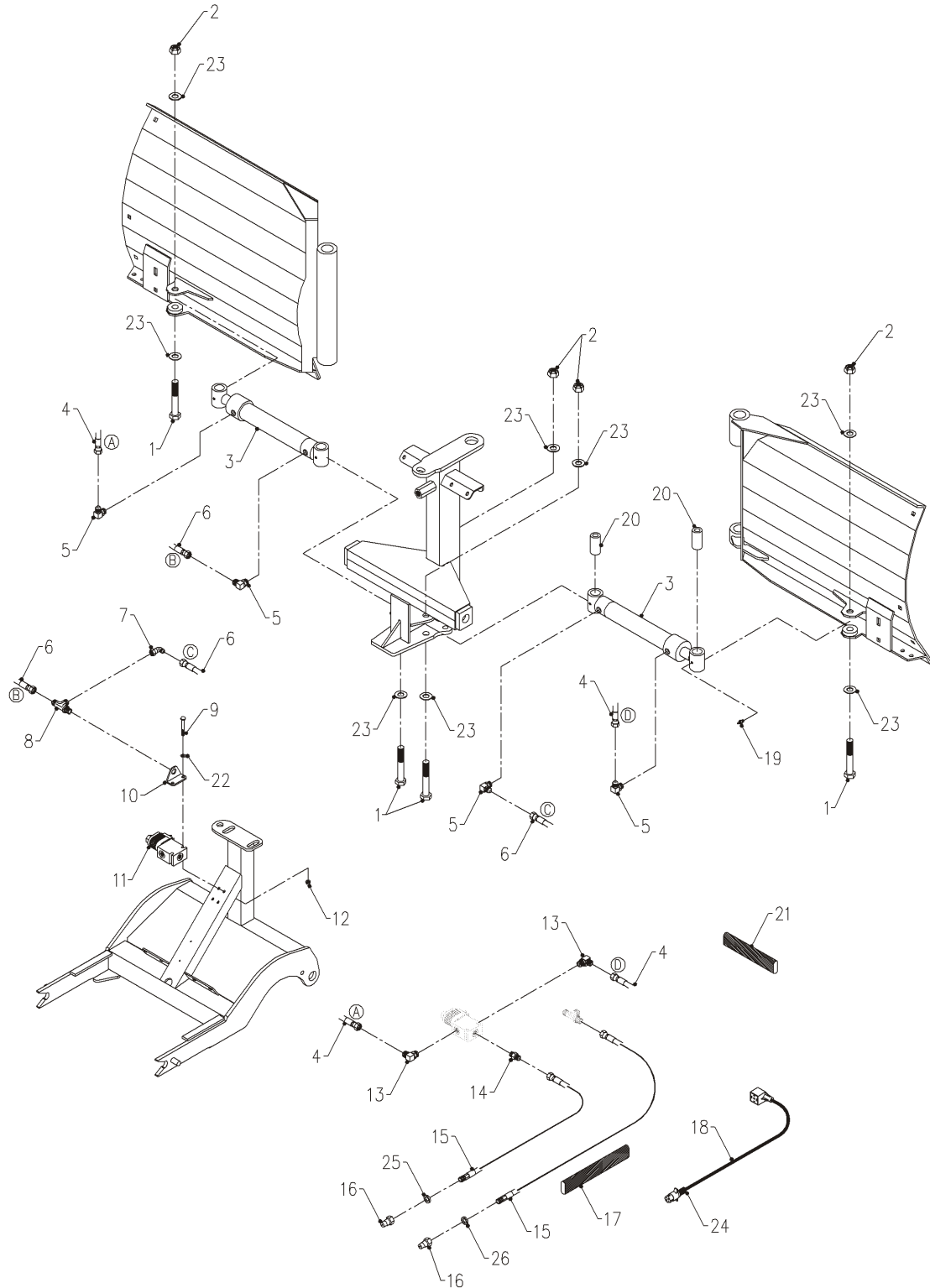
PARTS

SPRING SAFETY TRIP

REF.	PART NO.	DESCRIPTION	QTY.
1	00.0218	Decal, Danger - Pinching Hazard	2
2	62.1025	Center Cylinder Mount Frame (Serial # 1003-1124)	1
	62.1252	Center Cylinder Mount Frame (Serial # 1125 -)	11
3	00.0100	Decal, Made in USA	1
4	41.0076	Extension Spring, 2" OD x 12-3/8	4
5	99.K0094	3/8-16 x 4-1/4 Hanger Bolt	4
6	62.1024	Hitch Frame	1
7	92.06	3/8-16 Nut	8
8	00.0217	Decal, Warning - Read Owner's Manual	1
9	99.SF06	3/8-16 Flange Nut	1
10	99.SF0608	3/8-16 x 1 Flange Bolt	1
11	80.0352	Safety Trip/Pivot Shaft	1

PARTS

ILLUSTRATED DRAWING BLADE HYDRAULICS



PARTS

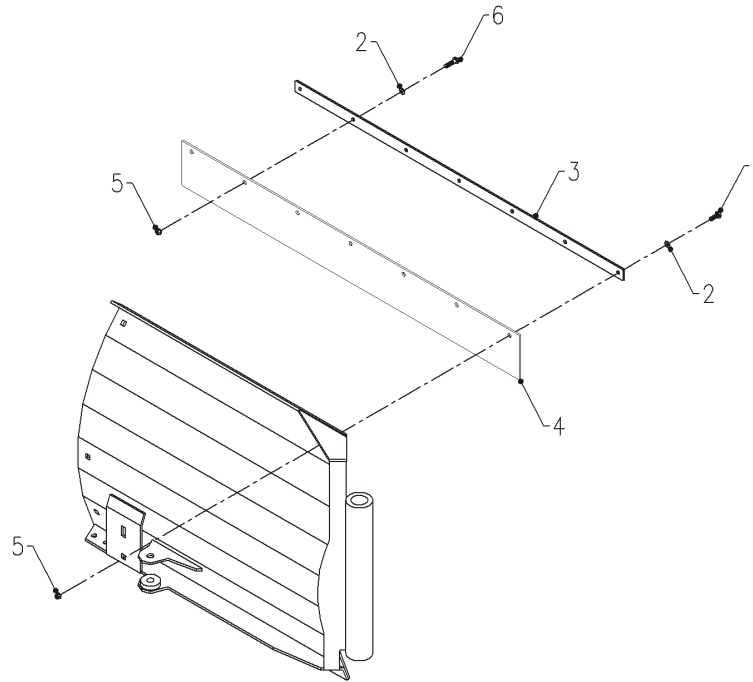
BLADE HYDRAULICS

REF.	PART NO.	DESCRIPTION	QTY.
1	90.0828	1/2-13 x 3-1/2 Bolt (Serial # 1003-1124)	4
	90.1032	5/8-11 x 4 Bolt (Serial # 1125 -)	4
2	99.A08	1/2-13 Lock Nut (Serial # 1003-1124)	4
	99.A10	5/8-11 Lock Nut (Serial # 1125 -)	4
3	23.0137	Cylinder, 1-1/2 x 8 x 1 Rod	2
4	20.0112	Hydraulic Hose Assembly - 1/4 x 28	2
5	25.6801-06-06	Hydraulic Fitting, 90 ME - 3/8 x 3/8	4
6	20.0136	Hydraulic Hose Assembly - 1/4 x 36	2
7	25.6500-06-06	Hydraulic Fitting, 90 MFE - 3/8 x 3/8	1
8	25.2704-6-6-6LN	Bulkhead T Fitting, 3/8 w/Lock Nut	1
9	90.0416	1/4-20 x 2 Bolt	2
10	64.1136	Hydraulic Fitting Mount Bracket	1
11	23.0136-1	Directional Control Valve, 12 v	1
12	99.SF04	1/4-20 Flange Nut	2
13	25.6801-06-04	Hydraulic Fitting, 90 ME - 3/8 x 1/4	2
14	25.6400-06-04	Hydraulic Fitting, M Connector - 3/8 x 1/4	1
15	20.0209	Hydraulic Hose Assembly - 1/4 x 45	2
16	23.0104	Male Quick Coupler	2
17	56.0060-36	Hose Sleeve, 1.25 x 36	1
18	34.1400-1011	Wire Assembly, 14 ga. Cord x 52	1
	23.0136-2	14 ga. Cord with 12V Control Valve Plug only	-
	30.0218	4 Pin Male Plug only	-
19	29.GF0001	1/4-28 Grease Fitting	4
20	64.1137	Bushing, 9/16 x 1" x 2-1/16 (Serial # 1003-1124)	4
	64.1248	Bushing, 21/32 x 1" x 2-1/16" (Serial # 1125 -)	4
21	56.0060-24	Hose Sleeve, 1.25 x 24	2
22	95.04	1/4 SAE Flat Washer	2
23	95.10	5/8 SAE Flat Washer (Serial # 1125 -)	8
24	27.A04-1IN	Hose, Neop Black 1/4 X 7/16 x 1"	1
25	05.0117	Washer, .544ID x .817 x.14 Yel	1
26	05.0116	Washer, .544ID x .817 x.14 Red	1

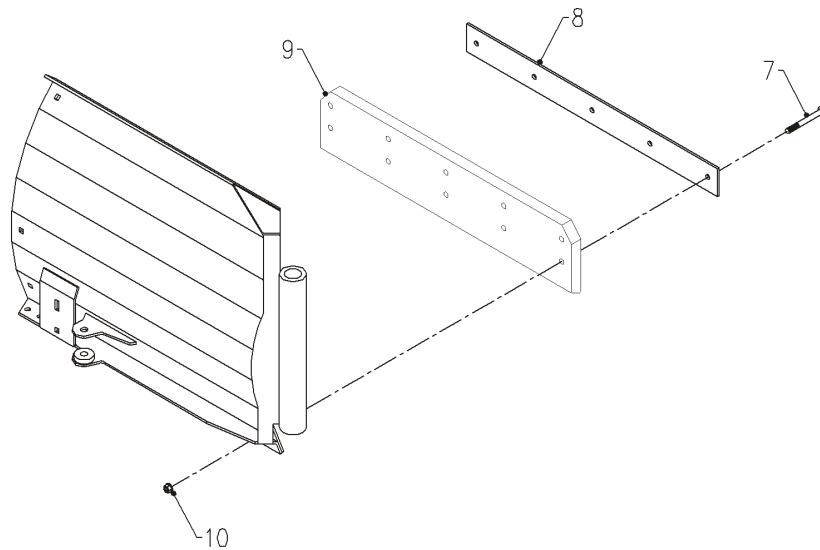
PARTS

ILLUSTRATED DRAWING SNOW CONTAINMENT FLAP & POLYURETHANE CUTTING EDGE

KIT# 70.8044 SNOW CONTAINMENT FLAP



KIT# 70.8048 POLYURETHANE CUTTING EDGE



PARTS

KIT# 70.8044 SNOW CONTAINMENT FLAP

REF.	PART NO.	DESCRIPTION	QTY.
1	90.0406	1/4-20 x 3/4 Bolt	10
2	95.04	1/4 SAE Flat Washer	14*
3	64.1143	Backing Strap	2
4	44.0216	Rubber Flap	2
5	99.SF04	1/4-20 Flange Nut	14*
6	90.0408	1/4-20 x 1 Bolt	4*

*Ref. 6 and four each of Ref. 2 and 5 are used with blade extension only.

KIT# 70.8048 POLYURETHANE CUTTING EDGE

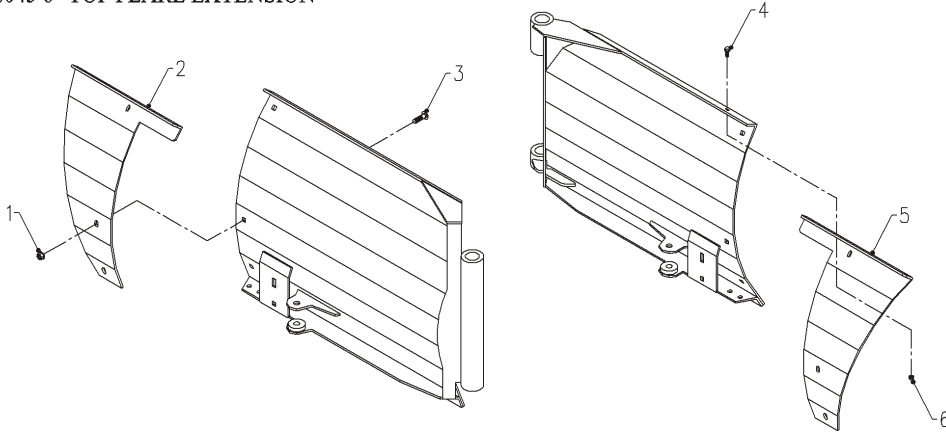
REF.	PART NO.	DESCRIPTION	QTY.
7	97.0616	3/8-16 x 2 Carriage Bolt	10
8	64.1144	Clamp Plate	2
9	44.0217	Polyurethane Cutting Edge	2
10	99.SF06	3/8-16 Flange Nut	10

PARTS

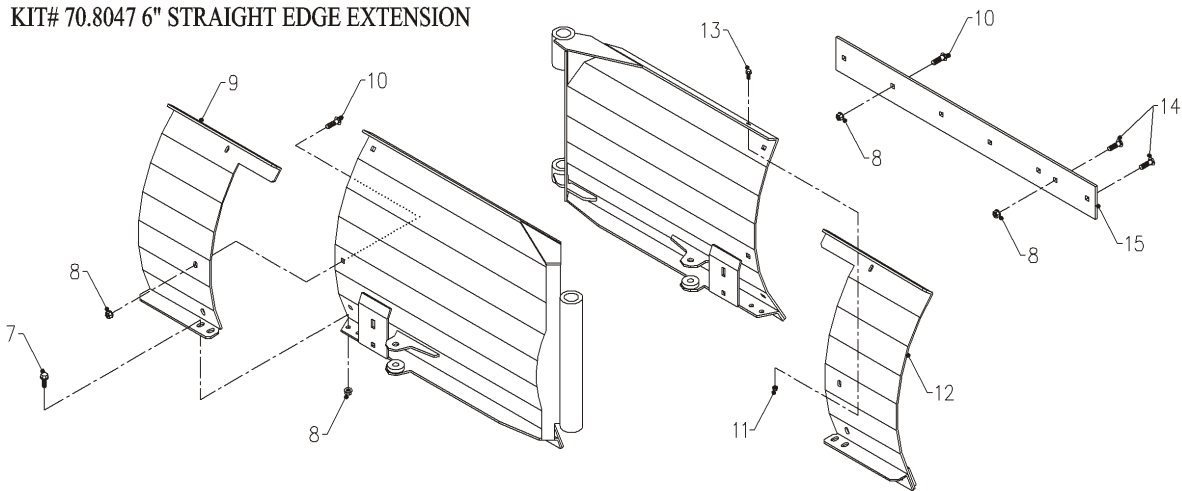
ILLUSTRATED DRAWING

FLARE EXTENSION, STRAIGHT EXTENSION, & EXTENSION W/FLARE

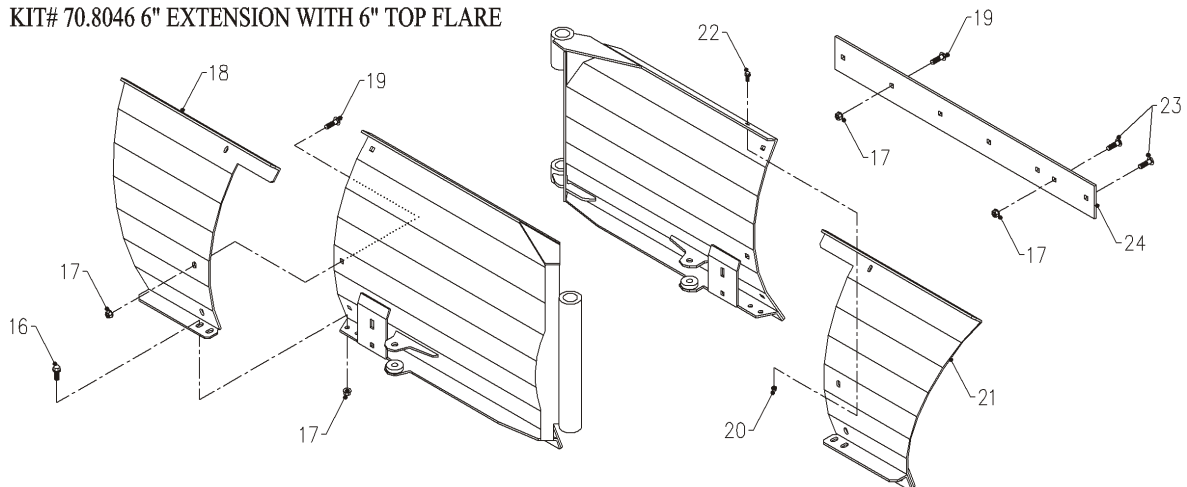
KIT# 70.8045 6" TOP FLARE EXTENSION



KIT# 70.8047 6" STRAIGHT EDGE EXTENSION



KIT# 70.8046 6" EXTENSION WITH 6" TOP FLARE



PARTS

KIT# 70.8045 6" TOP FLARE EXTENSION

REF.	PART NO.	DESCRIPTION	QTY.
1	99.SF06	3/8-16 Flange Nut	6
2	60.0890	Top Flare Extension, Left	1
3	97.0608	3/8-16 x 1 Carriage Bolt	6
4	99.SF0406	1/4-20 x 3/4 Flange Bolt	4
5	60.0889	Top Flare Extension, Right	1
6	99.SF04	1/4-20 Flange Nut	4

KIT# 70.8047 6" STRAIGHT EDGE EXTENSION

REF.	PART NO.	DESCRIPTION	QTY.
7	99.SF0606	3/8-16 x 3/4 Flange Bolt	4
8	99.SF06	3/8-16 Flange Nut	24
9	62.1029	6" Straight Extension, Left	1
10	97.0608	3/8-16 x 1 Carriage Bolt	16
11	99.SF04	1/4-20 Flange Nut	4
12	62.1028	6" Straight Extension, Right	1
13	99.SF0406	1/4-20 x 3/4 Flange Bolt	4
14	97.0610	3/8-16 x 1-1/4 Carriage Bolt	4
15	78.0056	Cutting Edge, Hardened 6" Extended	2

KIT# 70.8046 6" EXTENSION WITH 6" TOP FLARE

REF.	PART NO.	DESCRIPTION	QTY.
16	99.SF0606	3/8-16 x 3/4 Flange Bolt	4
17	99.SF06	3/8-16 Flange Nut	24
18	62.1031	6" Extension with 6" Top Flare, Left	1
19	97.0608	3/8-16 x 1 Carriage Bolt	16
20	99.SF04	1/4-20 Flange Nut	4
21	62.1030	6" Extension with 6" Top Flare, Right	1
22	99.SF0406	1/4-20 x 3/4 Flange Bolt	4
23	97.0610	3/8-16 x 1-1/4 Carriage Bolt	4
24	78.0056	Cutting Edge, Hardened 6" Extended	2