BRUSH BLAZER®

by PECO®

COMMERCIAL WALK-BEHIND FIELD & BRUSH CUTTER

MODEL #: TBB-3001

OPERATOR'S MANUAL

PART #: Q0001

OPERATION ● MAINTENANCE

PECO BRUSH BLAZER

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SAFETY ALERT SYMBOLS

Safety Alert Symbol

This Safety Alert Symbol means: **"ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!"**
This symbol is used to call attention to safety precautions that should be followed by the operator to avoid accidents. When you see this symbol, carefully read the message that follows and heed its advice. Failure to comply with safety precautions could result in death or serious bodily injury.

Safety Signs

The signal words **DANGER, WARNING,** and **CAUTION** are used on the equipment safety signs. These words are intended to alert the viewer to the existence and the degree of hazard seriousness.

*This signal word indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.

*This signal word indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
*It may also be used to alert against unsafe practices.

*This signal word indicates a potentially hazardous situation exist which, if not avoided, will result in minor or moderate injury.
*It may also be used to alert against unsafe practices.

GENERAL SAFETY RULES

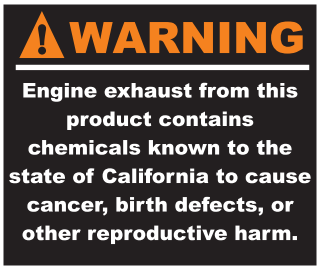
READ THIS OWNERS MANUAL CAREFULLY BEFORE OPERATING THE PECO BRUSH BLAZER. DO NOT ALLOW ANYONE WHO IS NOT FAMILIAR WITH THE SAFETY AND OPERATING INSTRUCTIONS TO OPERATE THE PECO BRUSH BLAZER. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH

- Read all safety and operating instructions before using the machine.
- Do not operate the machine near people or animals.
- Remove any objects that could be thrown by the rotating blades.
- Always wear eye and ear protection when operating the machine.
- Keep body parts away from rotating belts and blades.
- Use caution when operating the machine on slopes. Keep a firm grip on the handle bars.
- Keep combustibles away from the engine when it is hot.
- Disengage the blades when crossing roads, sidewalks or gravel drives.
- Use extra caution when operating in slippery or wet conditions.
- Do not cut while in reverse or moving backwards. Use extra caution while moving backwards.
- Do not remove or alter standard parts on the machine. Doing so may result in serious injury and will void the warranty.
- Do not operate the machine when excessive noise or vibration is present. Immediately shut off the engine, disconnect the spark plug wire and allow all moving parts to come to a complete stop. Inspect for damage, then clean or repair damaged parts if necessary.
- Do not operate the machine while under the influence of alcohol or medication.
- Do not operate the machine in poor light conditions. Doing so may result in serious injury.
- Do not move up and down the face of slopes, always move across the face.
- Watch for holes, ruts and bumps. Tall grass can hide obstacles.
- Do not operate the machine on slopes greater than 20 degrees.
- Do not operate the machine on slopes that are wet or excessively steep.
- Keep children and pets out of the operating area, and under close adult supervision.
- Stop the machine immediately if children or pets enter the work area.
- Never allow children to operate the machine.
- Use extra caution when approaching shrubs, trees or other objects that may obscure your vision.
- Never run the engine in an enclosed area without proper ventilation. The exhaust contains carbon monoxide, which is a colorless, odorless, deadly poisonous gas.
- Allow the engine to cool down before filling the gas tank.
- Never make adjustments or repairs while the engine is running.
- Do not change the engine governor speed. Doing so may result in injury and will void the warranty.
- No list of warnings and cautions can be all-inclusive. If situations occur that are not covered by this manual, the operator must apply common sense and operate this machine in a safe manner.
- **WARNING TO PURCHASERS OF INTERNAL COMBUSTION ENGINE EQUIPPED MACHINERY OR DEVICES IN THE STATE OF CALIFORNIA: The Brush Blazer does not have a spark arrester muffler. If this machine is to be used on any forest covered or brush covered land in the state of California, the law requires that a spark arrester must be attached to the exhaust system and must comply with Section 4442 of the California Public Resources Code.**
- **The Brush Blazer fuel tank is compliant with the California Air Resources Board (C.A.R.B)**

SAFETY DECALS

This label reminds you that flying debris is projected in the direction of these arrows. Anything or anyone within this field is in danger of being hit by flying debris.

This label lists safe operation procedures.



This label warns you of the dangers of carbon monoxide.

Do not operate the Brush Blazer without the hoods in place. Keep hands and other body parts away from rotating belts.

Keep hands and feet clear of the deck edge. Never reach under the mower deck until the blades have come to a complete stop.

This label reminds you that other people are in danger of being hurt by the blades and flying debris.

PECO LIMITED WARRANTY FOR NEW PRODUCTS

A. WHAT IS WARRANTED?

PECO extends the following warranties to the original purchaser of each new PECO consumer product subject to the following limitations:

1. PRODUCT WARRANTY: Any part of any consumer product, which is **DEFECTIVE IN MATERIAL OR WORKMANSHIP** as delivered to the purchaser will be repaired or replaced, as PECO elects, without charge for parts or labor, if the defect appears within 12 months from the date of delivery of the product to the original purchaser. **ALL DEFECTIVE PARTS MUST BE RETURNED TO PECO FOR INSPECTION TO DETERMINE VALIDITY OF WARRANTY CLAIMS.** Freight and mailing will be borne by the customer.

2. PARTS REPLACED DURING WARRANTY: Any new PECO part which is furnished in performance of this warranty and is defective in material or workmanship as delivered to the purchaser will be repaired or replaced, as PECO elects, without charge if the defect appears within 90 days from the date of installation of such part or before the expiration of the original warranty period, whichever is later.

B. SECURING WARRANTY ADJUSTMENTS.

Call PECO for Return Authorization. Damaged or broken parts, other than engines or batteries, must be returned to New PECO Inc., 100 Airport Road, Arden, NC 28704 before any warranty adjustment can be authorized. At the time of requesting warranty adjustment, the purchaser must present evidence for date of delivery of the product. The purchaser shall pay any charge for the product to and from Arden, NC.

C. ITEMS NOT COVERED BY PECO WARRANTY.

Engines and batteries attached to PECO products are covered under a separate warranty by the respective manufacturer.

D. UNAPPROVED ALTERATION OR MODIFICATION.

All obligations of New PECO Inc., under this warranty, shall be terminated if products are altered or modified in ways not approved by New PECO Inc..

E. ACCIDENTS AND NORMAL MAINTENANCE.

The warranty covers only defective material and workmanship. It does not cover depreciation or damage caused by normal wear, accident, improper use or abuse of products. The cost of normal maintenance and normal replacement of service items such as belts, cutting blades, hoses, etc., which are not defective shall be paid for by the purchaser.

F. NO REPRESENTATIONS ADDITIONAL WARRANTIES, DISCLAIMER.

Neither New PECO Inc. nor any company affiliated with it makes any warranties, representations or promises as to the quality of performance of its products other than those set forth herein. Except as described above, New PECO Inc. makes no other warranties **AND SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OF FITNESS AND MERCHANTABILITY.**

G. REMEDIED EXCLUSIVE.

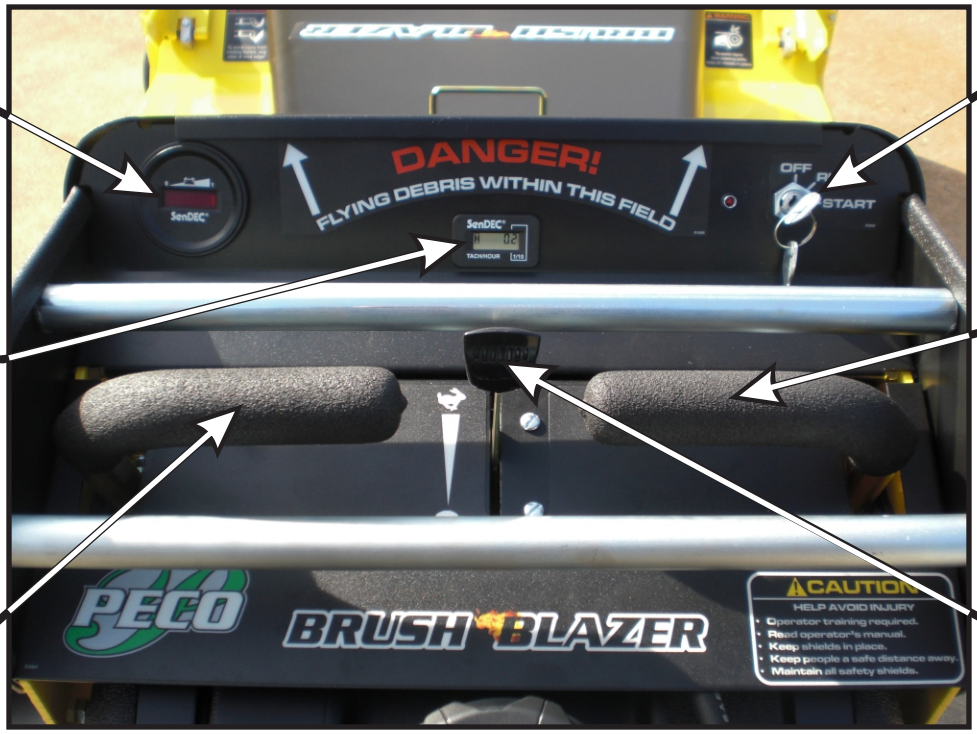
The only remedies the purchaser has in connection with the breach or performance of any warranty on New PECO Inc. consumer products are set forth above. In no event will PECO be liable for special incidental or consequential damages.

1. NO SERVICE CENTER WARRANTY.

The selling Service Center makes no warranty on his own on any item warranted by New PECO Inc. unless he delivers to purchaser a separate written warranty certificate specifically warranting the item. The dealer has no authority to make any representation or promise on behalf of PECO or to modify the terms of this warranty in any way.

CONTROLS

Instrument Cluster



Battery Charge Meter

Key/Start Switch

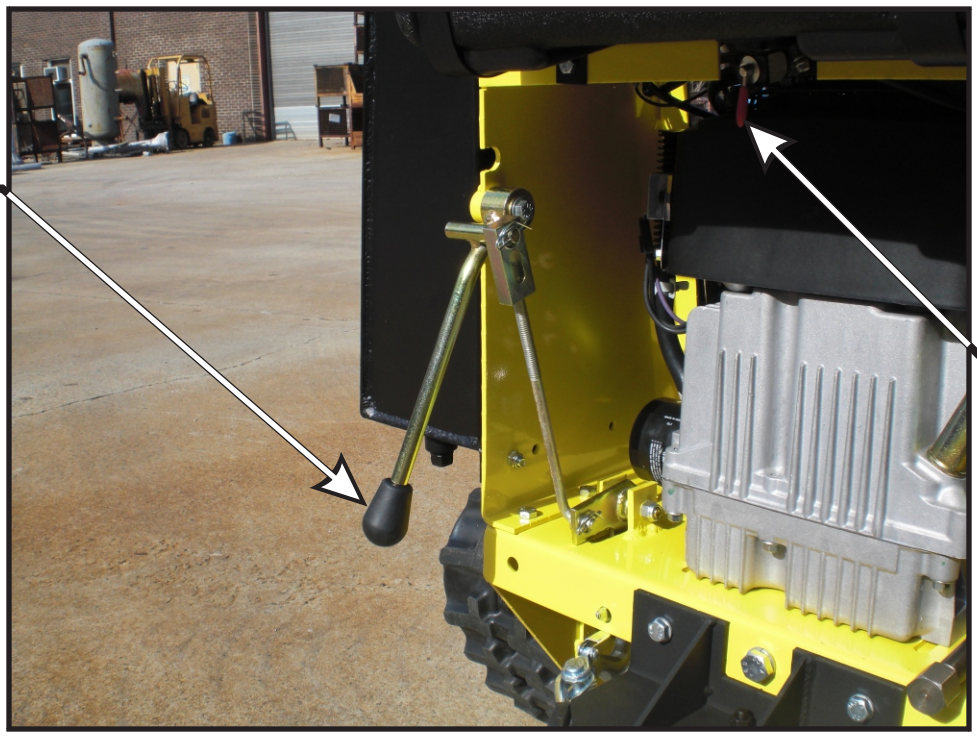
Hour Meter

Right Steering Control Handle

Left Steering Control Handle With Operator Presence Switch

Throttle Control

Other Controls



Blade Engage/ Disengage Lever

Fuel Shutoff

OPERATION

WARNING

READ THE SAFETY AND OPERATION PROCEDURES BEFORE USING THE PECO BRUSH BLAZER. DO NOT LET ANYONE OPERATE THE PECO BRUSH BLAZER IF THEY HAVE NOT READ AND ARE FAMILIAR WITH THE SAFETY AND OPERATION PROCEDURES. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

The PECO Brush Blazer is equipped with an operator presence switch located on the left steering control handle. Your left hand must be on the left steering control handle at all times when operating the machine. Removing your left hand from the left steering control handle will engage the kill switch on the engine. This featured is designed and installed for your safety. Familiarize yourself with the controls and descriptions in the section below.

Starting The Brush Blazer

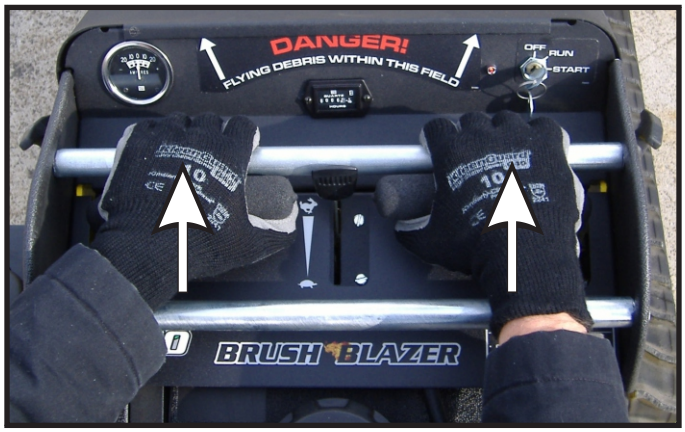
1. Place Your Left Hand On The Left Steering Control Handle

2. Push The Throttle Control Forward

3. Turn The Key Switch To The Run Position And Wait For The Fuel Pump To Engage. Once The Fuel Pump Is Engaged, Turn The Key To The Start Position And Release

OPERATION

Forward Movement

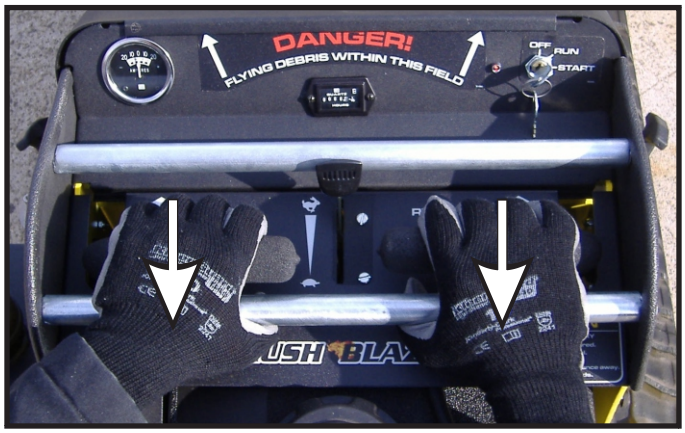


Grab the front handle bar with your fingers and the steering control handles with your thumbs. Push both steering control handles forward at the same time to move forward. Push the controls slightly to move forward slowly. Pushing harder will increase the speed of your forward movement.

WARNING

USE EXTREME CAUTION WHEN OPERATING THE MACHINE IN REVERSE TO AVOID GETTING CAUGHT UNDER THE MACHINE. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

Reverse Movement



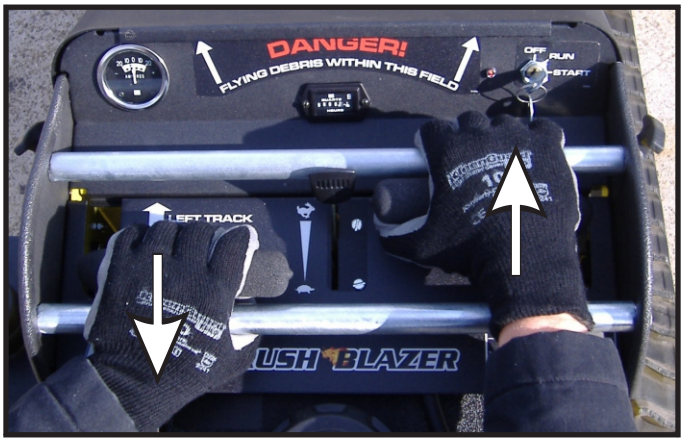
Grab the rear handle bar with your thumbs and the steering control handles with your fingers. Pull the steering control handles back, towards you, at the same time. Pull back slightly to move slowly in reverse. Pull back harder to increase the speed of your reverse movement.

Steering Left

Keep your left hand on the left steering control handle. Push the right steering control handle forward to steer to the left. Push the right steering control slightly to steer slowly. Pushing the control harder will execute a sharper turn.

OPERATION

Left Zero Turn Maneuver



Grab the left steering control handle with your left hand and pull back while at the same time grabbing the right steering control handle with your right hand and pushing forward. This will spin the machine left, without mowing forward.

Steering Right

Keep your right hand on the right steering control handle. Grab the left steering control handle with your left hand and push forward to steer right. Push the control forward slightly to steer slowly. Pushing the control harder will execute a sharper turn.

Right Zero Turn Maneuver

Grab the left steering control handle with your left hand and push forward while at the same time grabbing the right steering control handle with your right hand and pulling back. This will spin the machine right, without mowing forward.

OPERATION

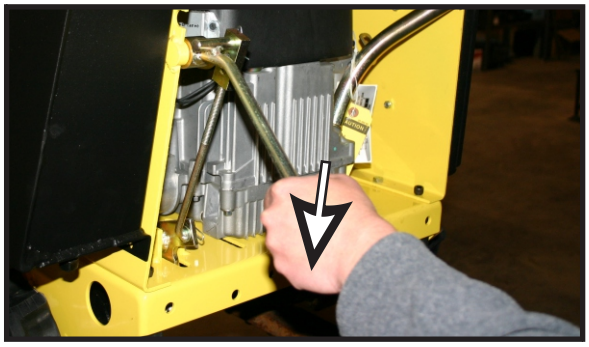
WARNING

THE BRUSH BLAZER CAN EASILY THROW STONES, STICKS AND OTHER DEBRIS AT GREAT VELOCITY, POSSIBLY CAUSING PROPERTY DAMAGE OR PERSONAL INJURY. DO NOT RUN THE BRUSH BLAZER OVER GRAVEL DRIVEWAYS, LOOSE STONES OR MULCH WITH THE BLADES ENGAGED. IF NECESSARY TO CLEAR DEBRIS FROM MOWER DECK, DISENGAGE THE BLADE, TURN THE KEY SWITCH TO THE OFF POSITION AND DISCONNECT THE SPARK PLUG WIRE.

Blade Engagement/Disengagement

Engagement

While holding the left steering control handle with your right hand, reach down and pull up **slowly** on the blade engagement control with your left hand.



Disengagement

While holding the left steering control handle with your right hand, push the blade control down with your left hand.

Tips On Brush Cutting

Obstacles: Always check your work area before mowing and remove any debris that might get tangled in or damage the machine. If the mower becomes tangled, turn off the engine and disconnect the spark plug wire before reaching into the mower deck area.

Slopes: Do not operate the brush blazer on slopes more than 20 degrees. If you have to operate the machine on sloping terrain, move across the face of the slope, not up and down.

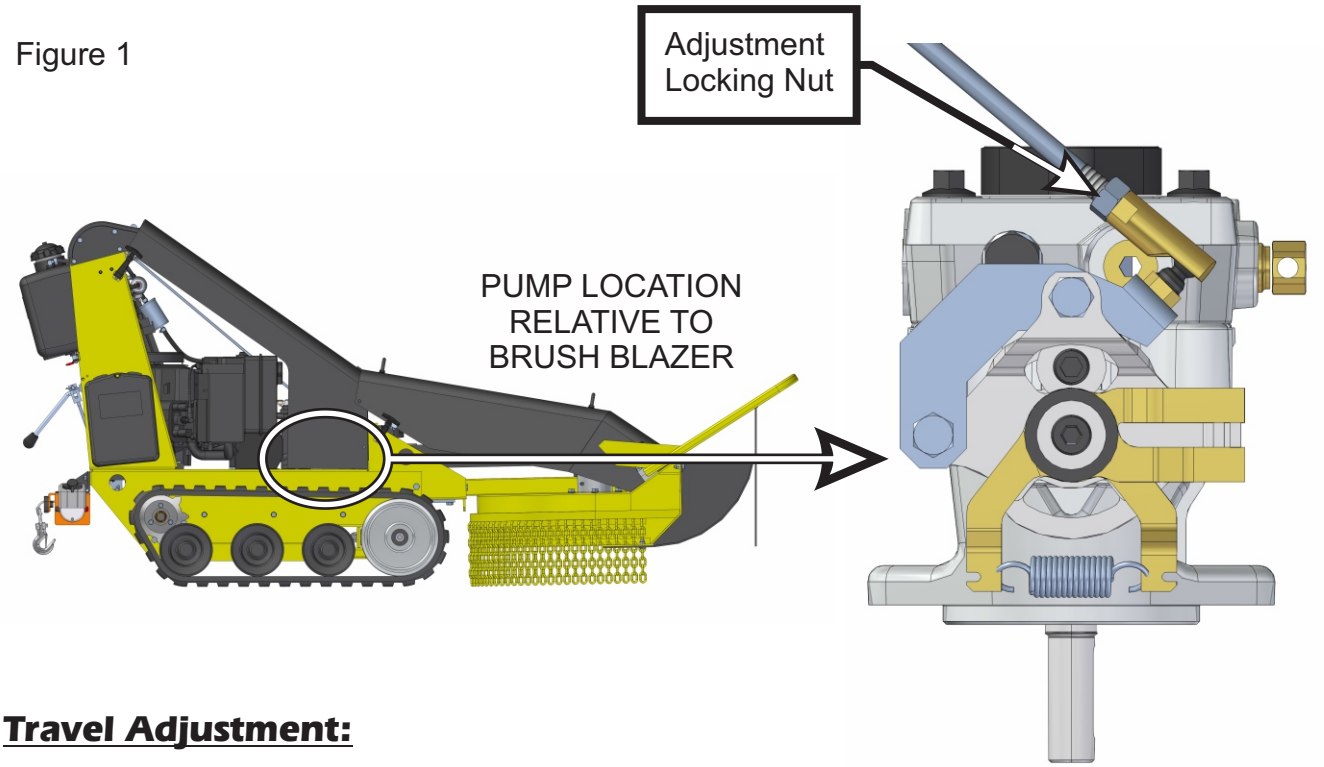
If The Machine Gets Hung Up: Disengage the blade immediately. Try moving in reverse and backing away from the obstacle.

Cutting Brush And Saplings: The Brush Blazer can cut saplings up to 4” in diameter. When cutting saplings or brush, allow the Brush Blazer to ride up and over the material slowly. Adjust your forward speed to varying conditions. After cutting brush or saplings, you may want to mow over it again to remove any remaining branches. It its recommended to mow from the trunk end toward the top as the brush lies on the ground.

Cutting In Wet Conditions: Use extreme caution when cutting in wet or slippery conditions. Avoid steep slopes or other slippery areas. Use a lower speed when conditions are wet or slippery.

PUMP ADJUSTMENT

Figure 1



Travel Adjustment:

Pulling To The Left -

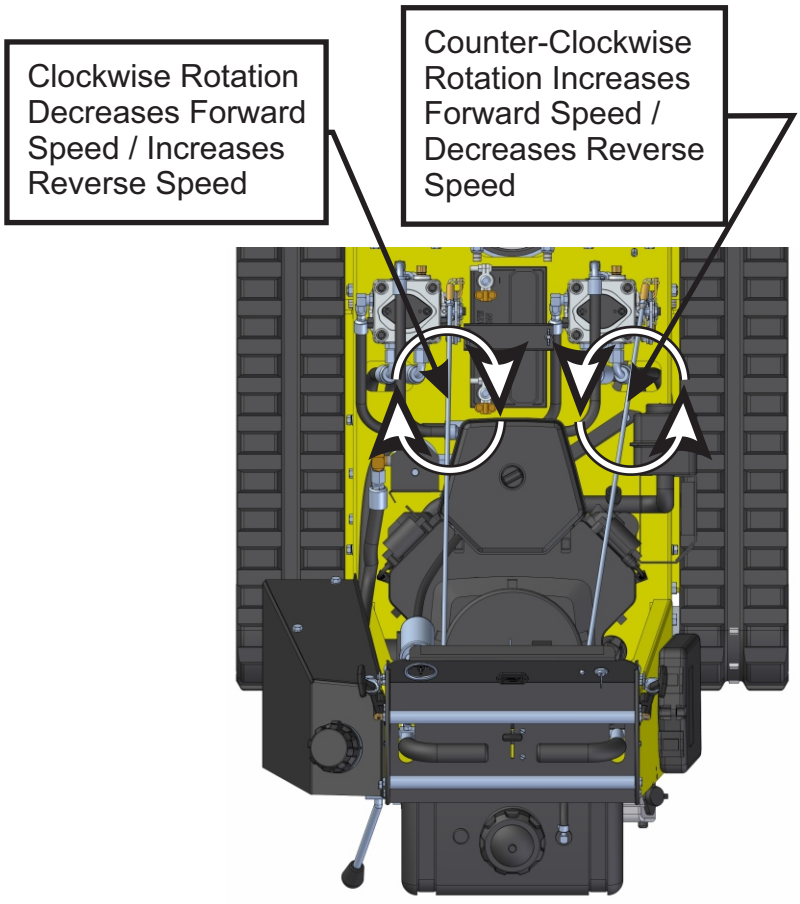
If the machine pulls to the left when traveling forward, adjust the left FRS rod by first loosening the adjustment locking nut (Figure 1). Next turn the left FRS rod counter-clockwise one full revolution (This action will lengthen the rod, which will increase the speed of the left motor and even out forward speeds), tighten the adjustment locking nut and test forward travel (Figure 2).

Pulling To The Right -

If the machine pulls to the right when traveling forward, adjust the right FRS rod by first loosening the adjustment locking nut (Figure 1). Next turn the right FRS rod counter-clockwise one full revolution (This action will lengthen the rod, which will increase the speed of the right motor and even out forward speeds), tighten the adjustment locking nut and test forward travel (Figure 2).

Note: If the forward travel still pulls to either the left or right, repeat the corresponding step above.

Figure 2



PUMP BELT ADJUSTMENT

The pump belt should be checked periodically for the correct tension. There should be 1” of movement for 10 lbs. of tension applied to the center of the belt. To adjust the belt, follow the steps below and refer to the figures for reference:

1. Use a floor jack to raise the machine off the ground and blocks to support the chassis and deck.
2. Remove the winch assembly, chassis rear guard and the chassis pan (Figure 1).
3. Check the tension on the belt using a belt tension gauge (Figure 2).
4. If the belt tension needs adjustment, loosen the pump belt idler bolt (Figure 3).
5. Push the pump belt idler forward to increase the tension, then tighten the pump belt idler bolt.
6. Check the tension on the belt again, and adjust the pump belt idler if necessary.
7. Replace the winch assembly, chassis rear guard and the chassis pan.

Figure 1

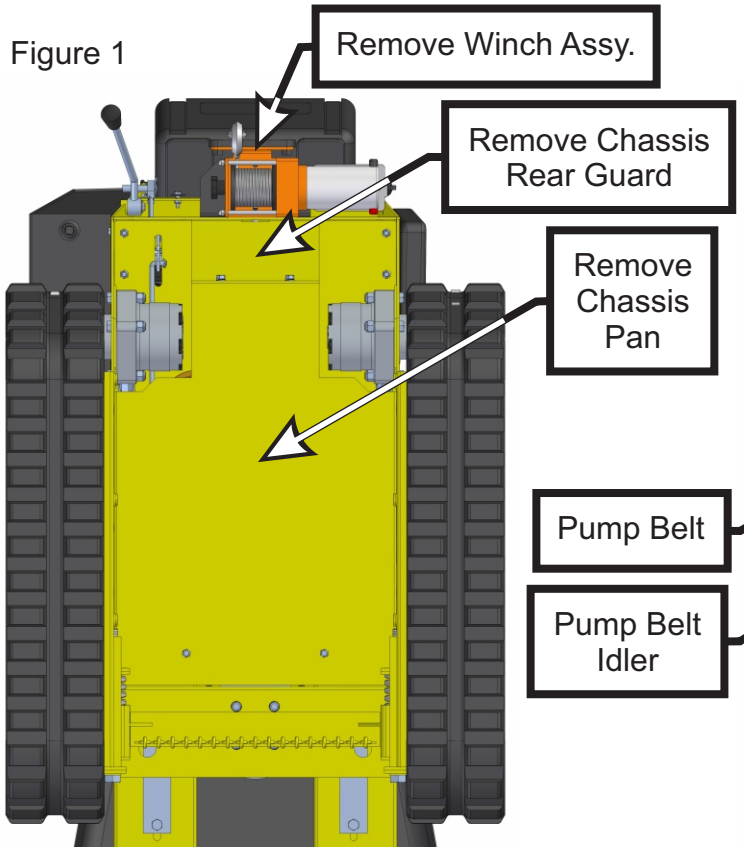


Figure 2

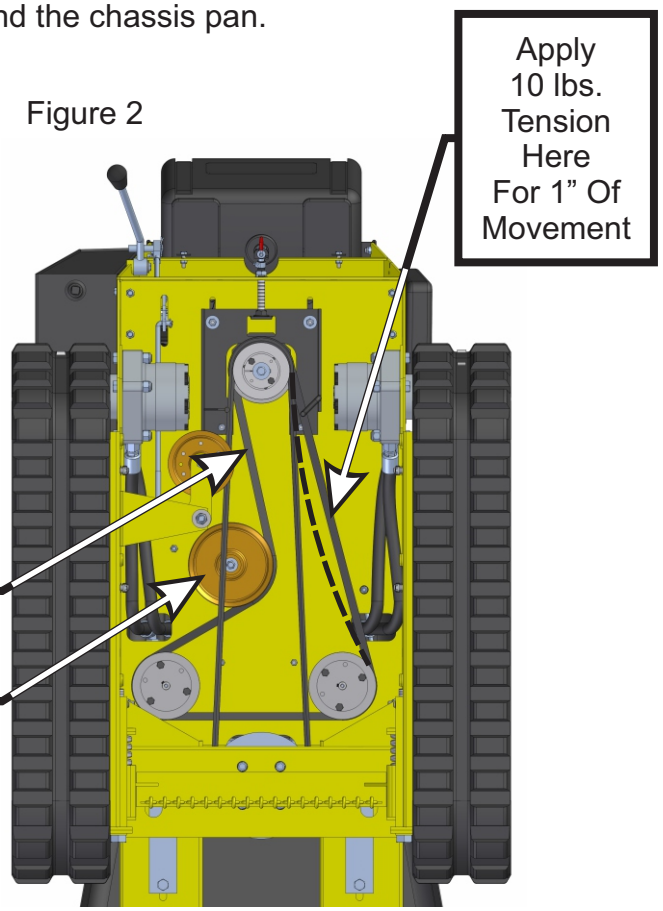
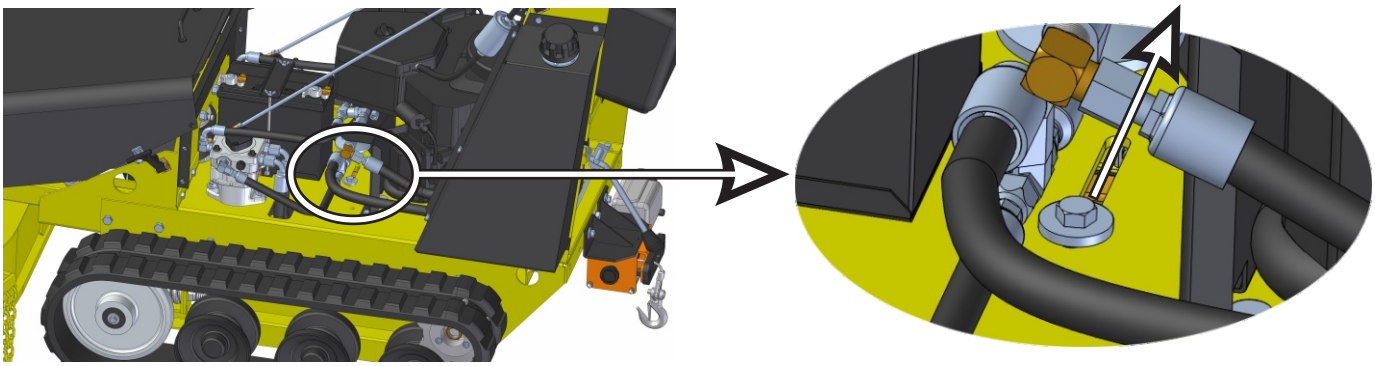


Figure 3



Pump Belt Idler Bolt Location Relative To Brush Blazer

Direction To Move Pump Belt Idler Bolt To Increase The Pump Belt Tension

DRIVE BELT IDLER ADJUSTMENT

When the blade engagement control is disengaged, the engine pulley should freely spin without turning the belt or blades. The drive belt idler must be checked periodically to ensure that the tension is correct, Follow the steps below and refer to the figures for reference:

1. Make sure the blade engagement control handle is disengaged.
2. Remove the winch assembly, chassis rear guard and the chassis pan (See Page 12 Figure 1).
3. Place tension on the drive belt as shown in the Figure 2.
4. Measure the gap between the idler and the belt. There should be 1/8”-3/16” gap between the idler and the belt.

If The Idler Needs To Be Adjusted -

1. Remove the cotter pin from the end of the adjustment rod and remove the end of the adjustment rod from the clutch control crank (Figure 1).
2. Turn the adjustment rod clockwise to move the idler closer to the belt, or counter-clockwise to move the idler away from the belt.
3. Once the gap between the idler and the belt is correct, insert the adjustment rod into the clutch control crank and fasten with the cotter pin.
4. Replace the winch assembly, chassis rear guard and the chassis pan.

Figure 1

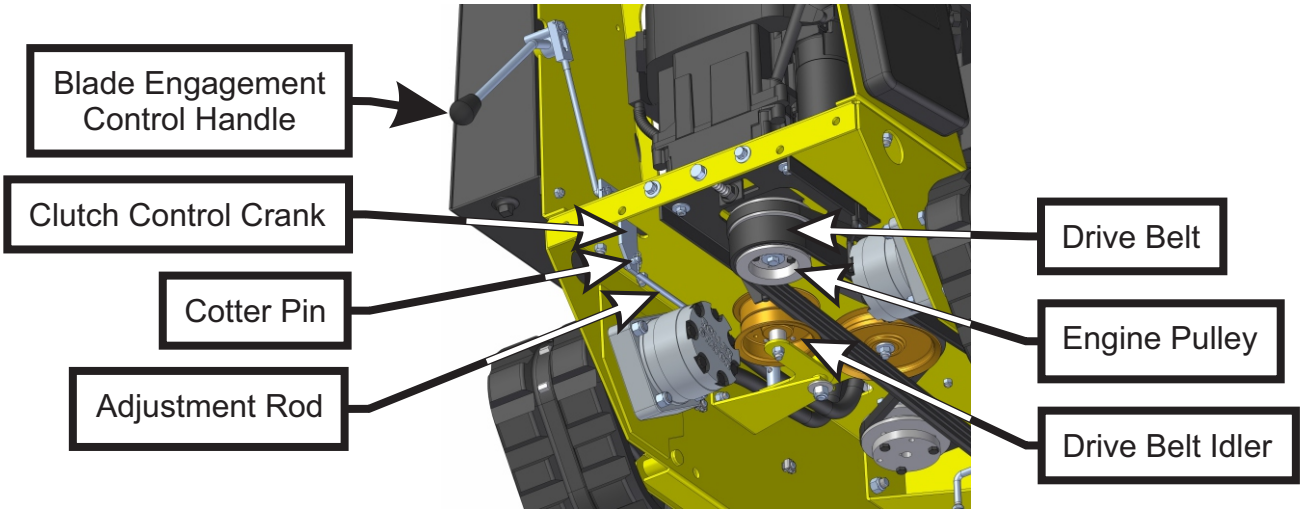
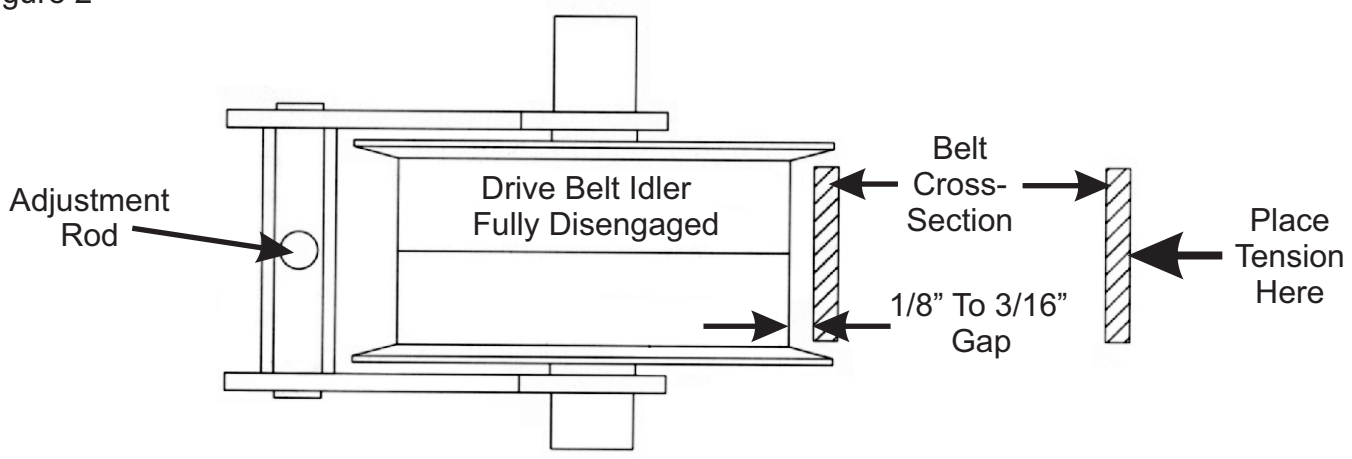


Figure 2

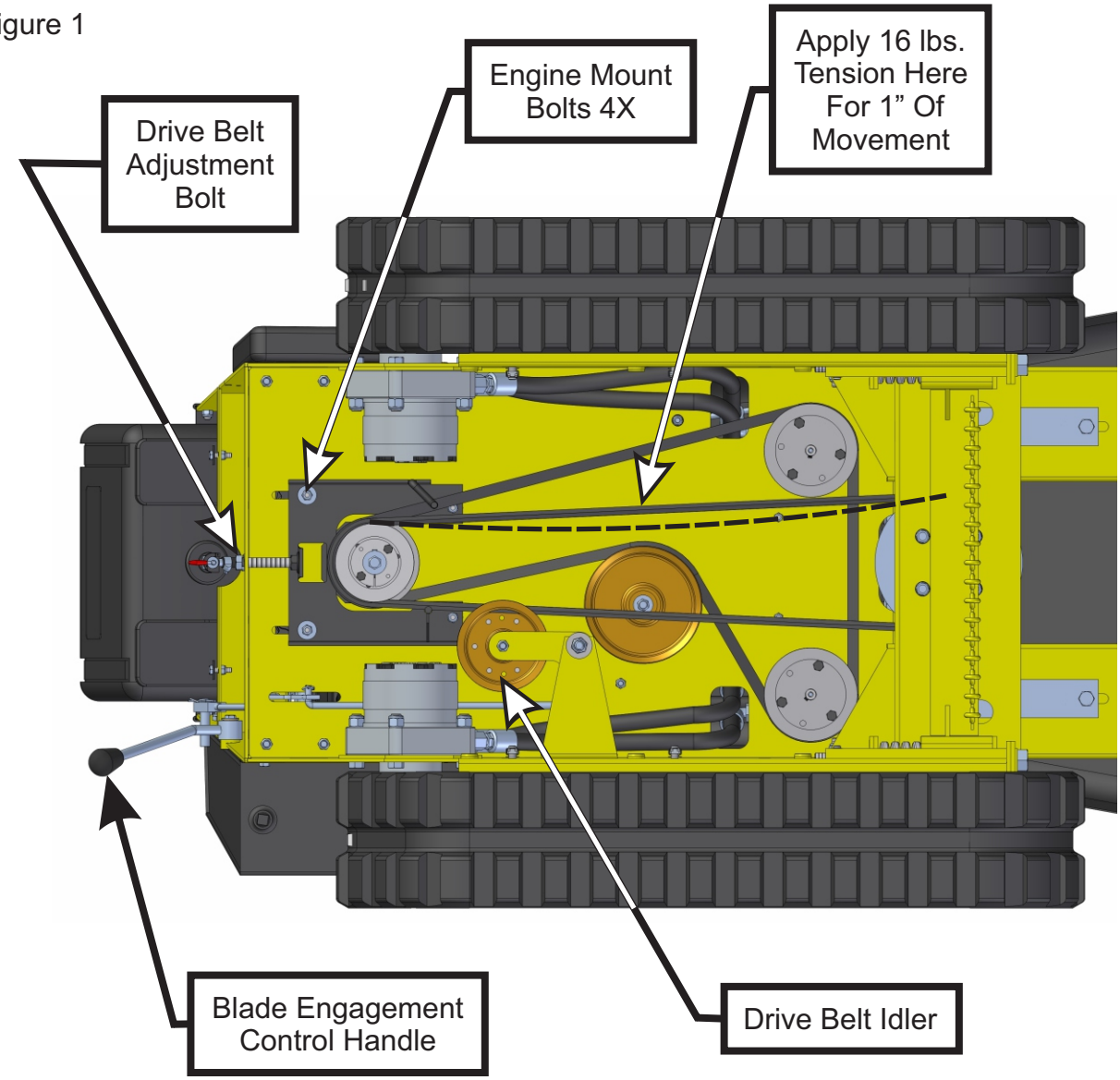


DRIVE BELT ADJUSTMENT

The drive belt should be checked periodically for the correct tension. There should be 1” of movement for 16 lbs. of tension applied to the center of the belt. Apply the tension to the center of the belt, on the side of the belt opposite the drive belt idler. To adjust the belt, follow the steps below and refer to the figures for reference:

1. Use a floor jack to raise the machine off the ground and blocks to support the chassis and deck.
2. Remove the winch assembly, chassis rear guard and the chassis pan (See Page 12 Figure 1).
3. Engage the blade engagement control handle by putting in the ‘up’ position (Figure 1).
4. Use a tension gauge to check the tension on the drive belt. Apply tension to the center of the belt, on the side opposite the drive belt idler. The correct tension is 1” of movement for 16 lbs. of tension applied to the center of the belt.
5. If the belt needs adjustment, first loosen the (4) engine mount bolts, then turn the drive belt adjustment bolt clockwise to increase the tension or counter-clockwise to decrease the tension.
6. When the desired belt tension is achieved, tighten the (4) engine mount bolts.
7. Disengage the blade engagement control handle by putting in the ‘down’ position.
8. Replace the winch assembly, chassis rear guard and the chassis pan.

Figure 1

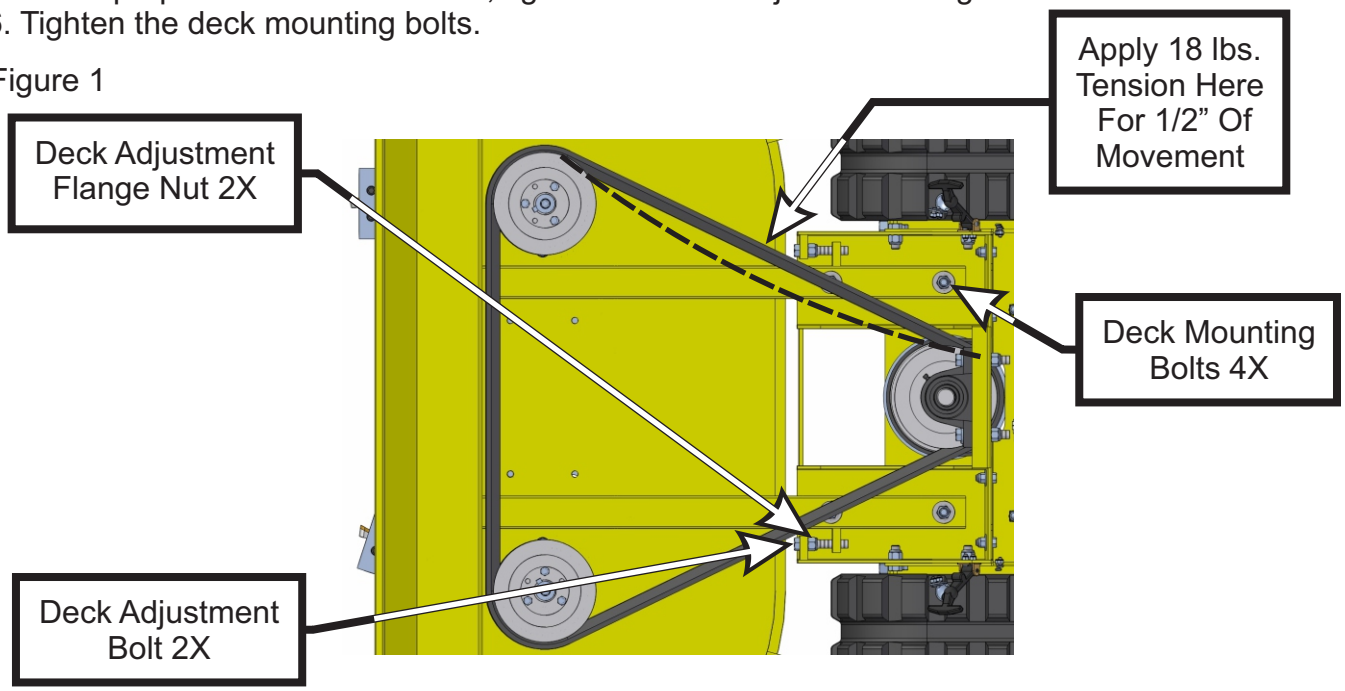


DECK BELT ADJUSTMENT

The deck belt should be checked periodically for the correct tension. The deck belt should move 1/2” with 18 lbs. of tension on the belt. To adjust the tension on the belt follow the steps below and use the figure for reference:

1. Place tension on the center of the deck belt as shown in Figure 1.
2. If the belt needs adjustment, loosen the four deck mounting bolts.
3. Loosen the two deck adjustment flange nuts.
4. Turn the each adjustment bolt clockwise to increase tension or counter-clockise to decrease tension.
5. When proper tension is achieved, tighten the deck adjustment flange nuts.
6. Tighten the deck mounting bolts.

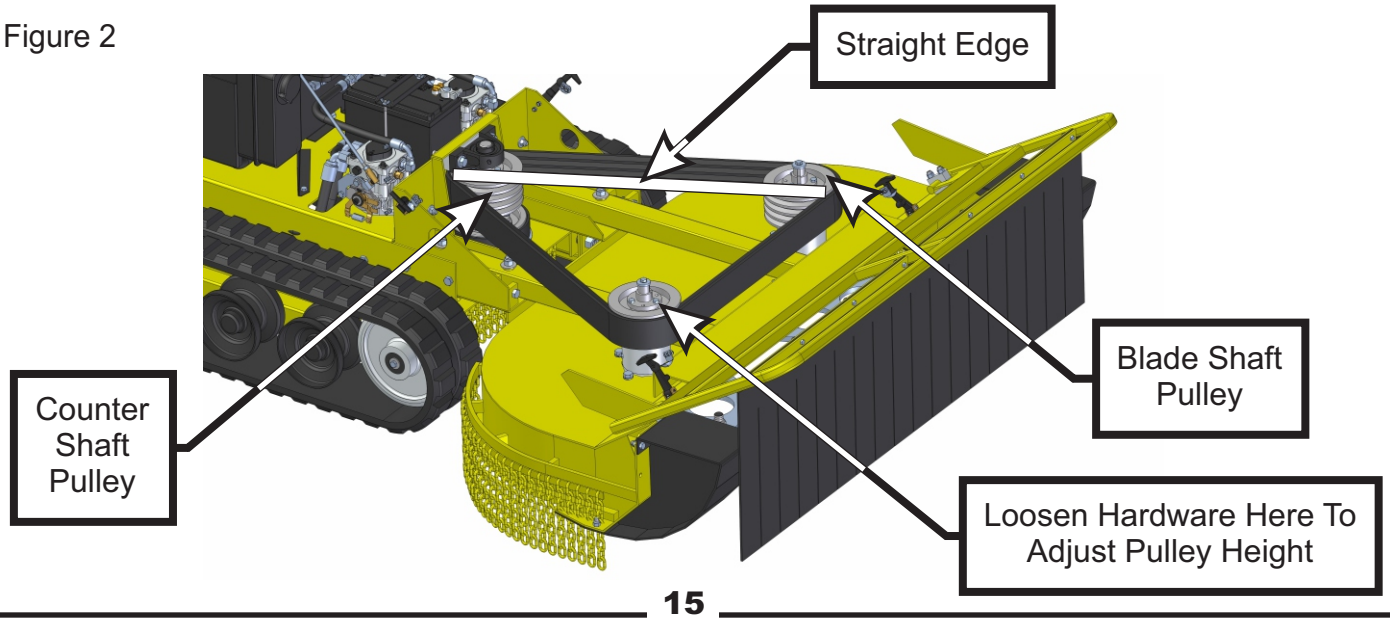
Figure 1



MOWER DECK PULLEY ALIGNMENT

1. Use a plumbers level on the counter shaft pulley.
2. Use a 30” straight edge to level the blade shaft pulleys with the counter shaft pulley (Figure 2).
3. Use a 30” straight edge to level the blade shaft pulleys with each other.
4. If necessary, loosen the hardware on the pulley sleeve shown in the figure below and adjust the pulley as needed.

Figure 2



DECK AND DRIVE BELT REMOVAL/REPLACEMENT

Use the following procedure for removal and replacement of the drive and deck belts:

Removal:

1. Remove the drive belt adjustment bolt from the rear chassis of the machine. (Figure 1)
2. Loosen the two front engine mounting bolts. (Figure 2)
3. Remove the two rear engine mounting bolts along with the main drive take-up assembly. (Figure 2)
4. Loosen the tension on the drive belt by pushing the engine forward.
5. Remove one end of the drive belt from the engine pulley. (Figure 3)
6. Loosen the four deck mounting bolts. (Figure 4)
7. Remove the deck adjustment bolts. (Figure 4)
8. Push the deck back as far as possible to loosen the tension on the deck belt. (Figure 5)
9. Remove the two bolts on the pillow block bearing. (Figure 6)
10. Pivot the counter shaft forward. (Figure 7)
11. With the counter shaft pivoted forward, remove the deck belt and drive belt from the pulleys on the counter shaft. (Figure 8)

Replacement:

1. Wrap one end of the drive belt around the lower pulley on the counter shaft and feed the belt towards the engine pulley.
2. Wrap the deck belt pulley around both blade pulleys and the counter shaft pulley.
3. Pivot the counter shaft backwards and replace the two bolts in the pillow block bearing.
4. Wrap the other end of the drive belt around the engine pulley.
5. Replace the main drive take-up and rear engine mounting bolts. Leave the engine mounting bolts loose at this time.
6. Replace the drive belt tension bolt.
7. Slide the engine as far back as possible to increase the tension on the belt.
8. Tension the drive belt. See page 14 for drive belt tensioning procedure.
9. Tighten the engine mounting bolts after the drive belt has the correct tension.
10. Pull the deck forward to increase the tension on the deck belt.
11. Replace the deck adjustment bolts.
12. Tension the deck belt. See page 15 for deck belt tensioning procedure.

Figure 1

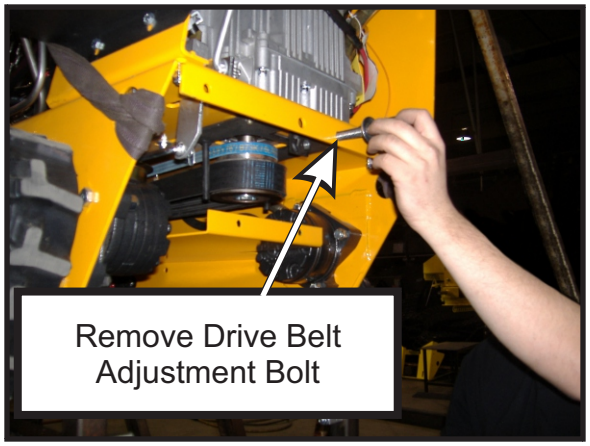
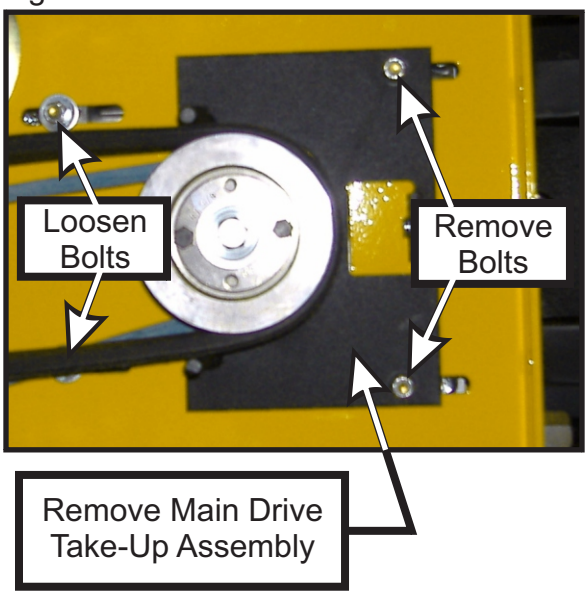


Figure 2



DECK AND DRIVE BELT REMOVAL/REPLACEMENT

Figure 3

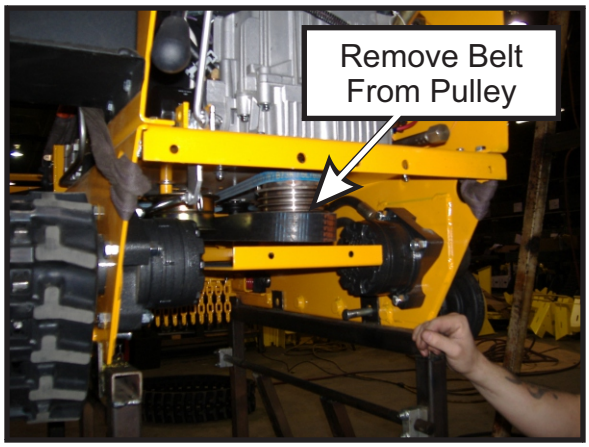


Figure 4

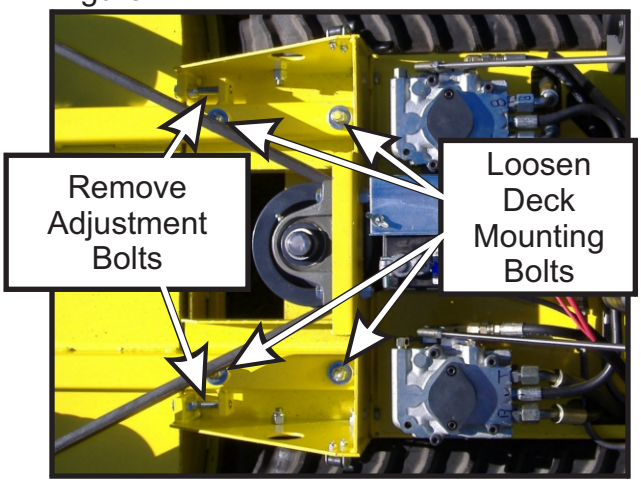


Figure 5

Figure 6

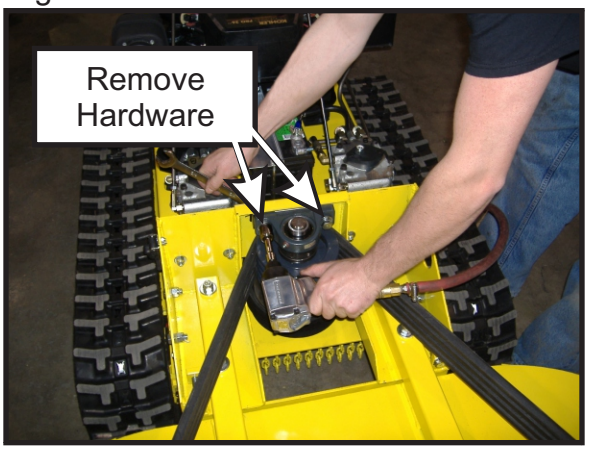


Figure 7

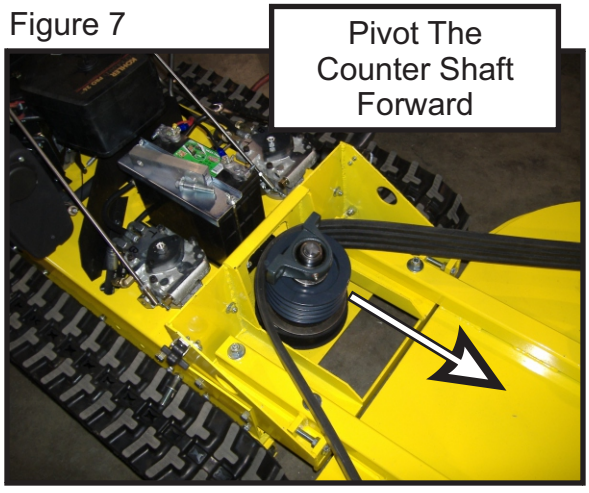
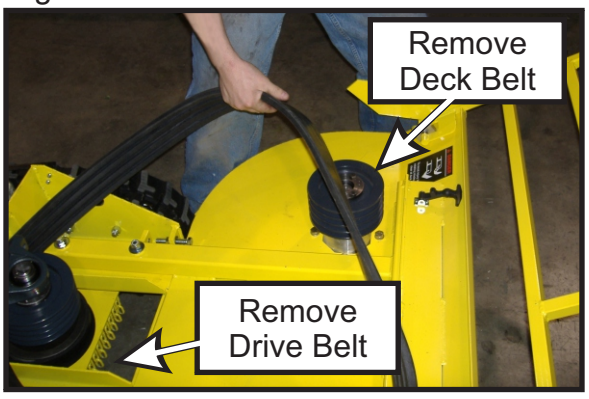


Figure 8



TRACK REMOVAL/REPLACEMENT

Removal:

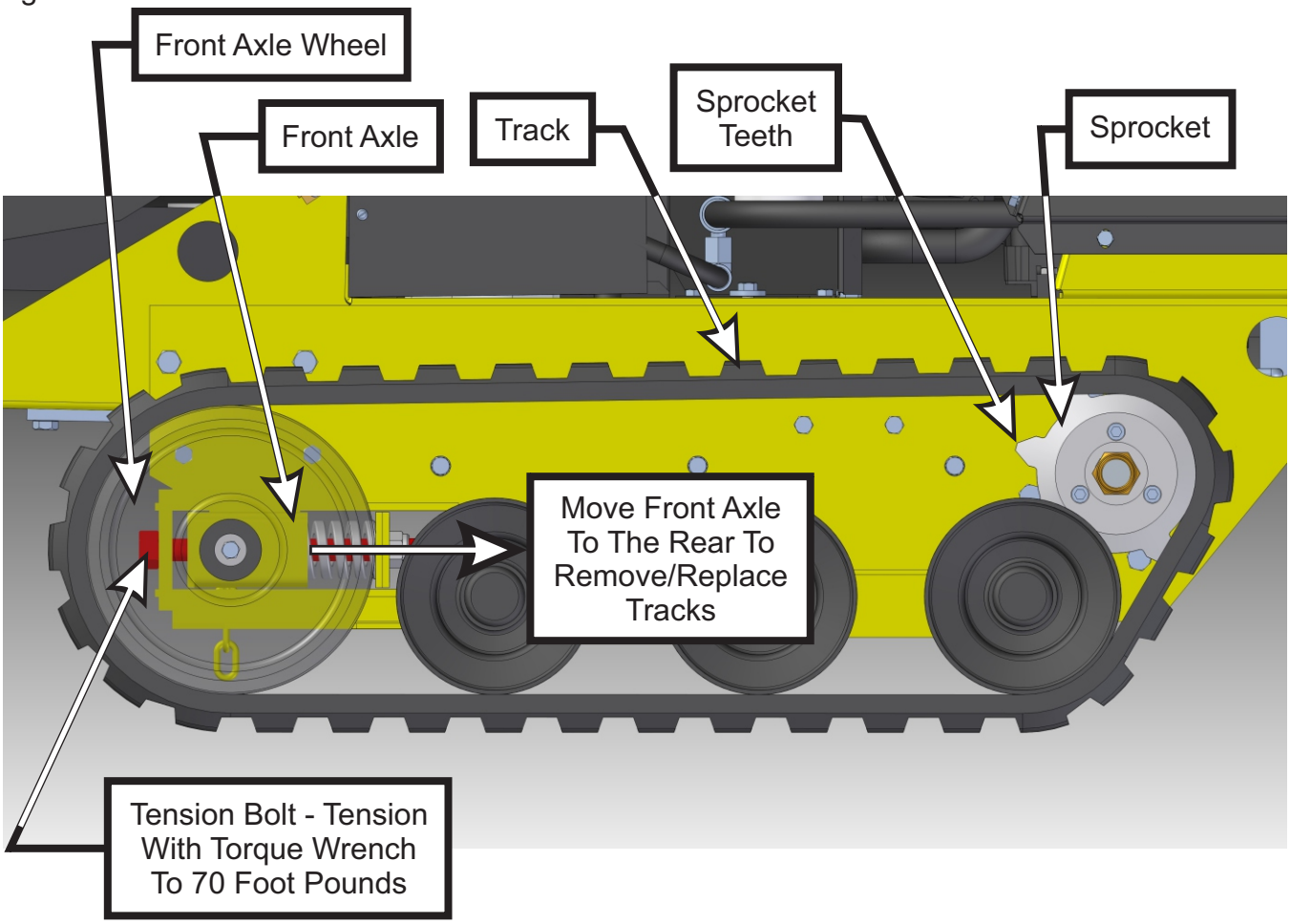
1. Remove the tension from the front axle by turning the tension bolts counter-clockwise located on each side of the Brush Blazer (Figure 1).
2. With the tension bolts fully loosened, you can then push the complete front axle towards the rear of the Brush Blazer to gain enough slack in the track to remove it from the machine.
3. Remove one or both tracks from the machine.

Replacement:

1. Remove the tension from the front axle by turning the tension bolts counter-clockwise located on each side of the Brush Blazer (Figure 1).
2. With the tension bolts fully loosened, you can then push the complete front axle towards the rear of the Brush Blazer.
3. Place the track onto the rear sprocket first and align the sprocket teeth to the center of the track allowing a greater length of slack to be in the track.
4. Place the loose end of the track around the front axle wheel.
5. Repeat steps 3 & 4 if installing both tracks.
5. With a torque wrench, tension each tension bolt (clockwise) to a minimum of 70 foot pounds of torque.

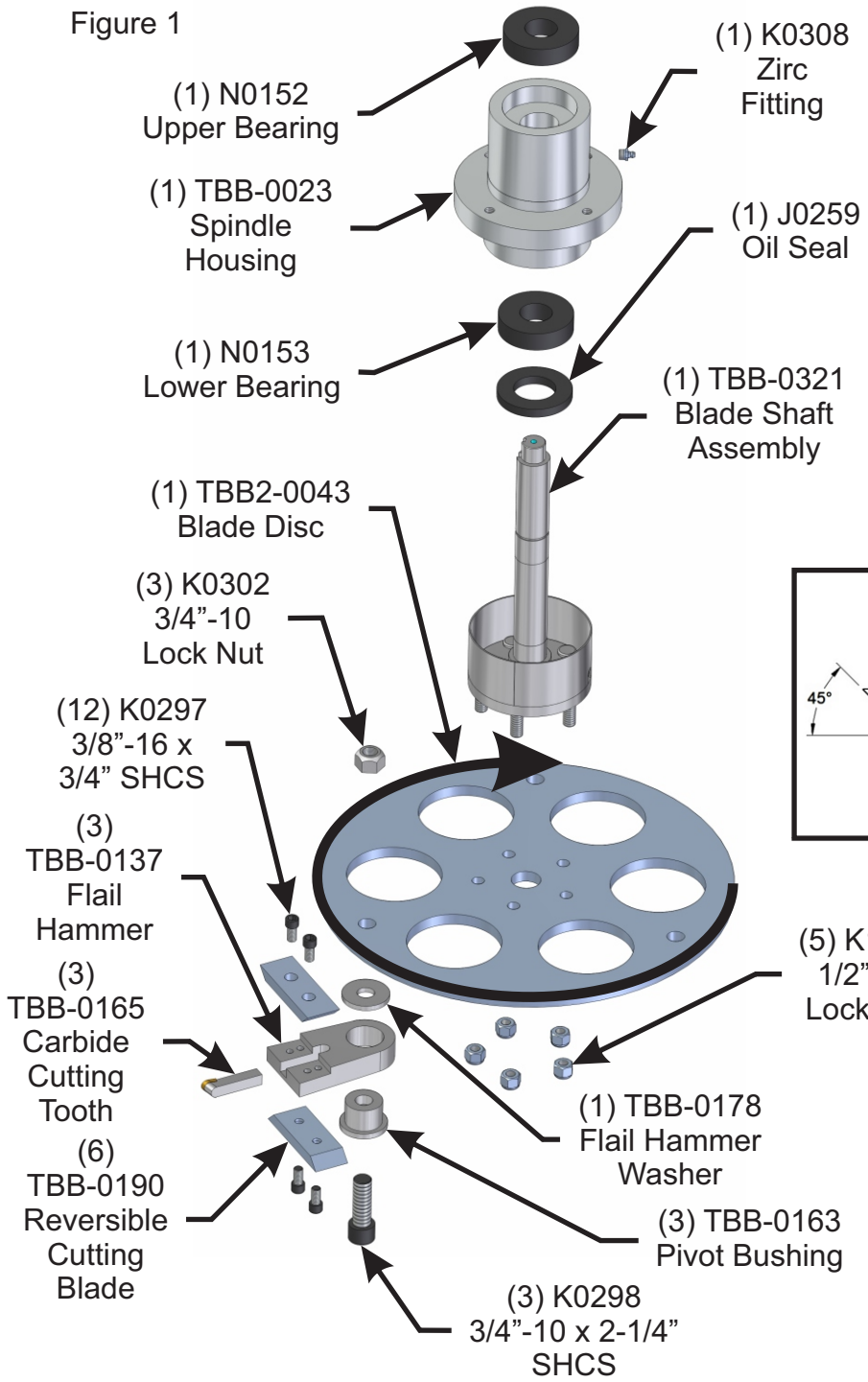
Note: The tread of the track is not uni-directional. The point of the 'V' in the tread should point away from the direction that requires more traction.

Figure 1



BLADE SHAFT ASSEMBLY

Figure 1



WARNING

STOP THE ENGINE, REMOVE BATTERY CABLE AND SUPPORT THE DECK BEFORE WORKING UNDERNEATH. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

Figure 2

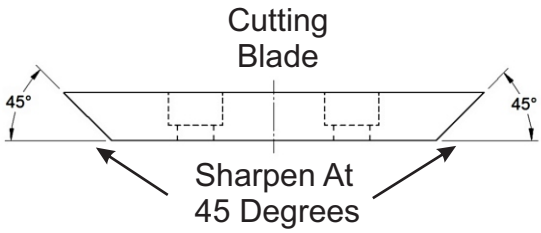
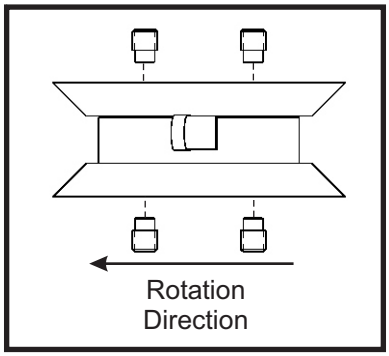


Figure 3



BLADE REPLACEMENT

1. Secure the deck and position the blades for easy access.
2. Remove the (12) cap screws P#(K0297) from the cutting blades.
3. Inspect the cutting blade P#(TBB-0190). Reverse blade or sharpen using Figure 2 for reference.
4. Check the carbide cutting tooth P#(TBB-0165) for wear. If the cutting tooth needs replacement, mount the new tooth 5/8” from the tip of the tooth to the face of the flail hammer module P#(TBB-0137).
5. Install the cutting blades as shown in Figure 3.

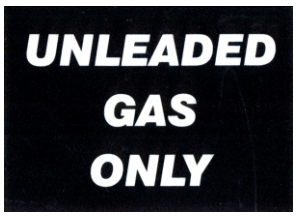
LABEL REPLACEMENT PART NUMBERS

R2002

R1040

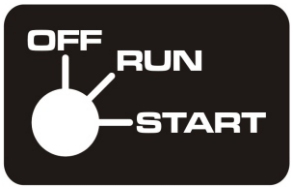
R1099

R1093



R1047

R2000



R2004

R1046

R1045

R1044

R1098

R2001

R2003

REGULAR MAINTENANCE

Battery Replacement:

1. Remove the deck and engine hood.
2 Disconnect the negative (-) battery cable.
3. Disconnect the positive (+) battery cable.
4. Remove the battery hold down clamp.
5. Remove the battery.
6. Clean the terminals and cable ends.
7. Install the new battery and replace battery hold down clamp.
8. Connect the positive (+) battery cable.
9. Connect the negative (-) battery cable.
10. Replace the deck and engine hood.

Electrical System Service:

1. Make sure the battery cables and terminals are clean and fastened tightly.
2. Check the electrolyte level in the battery often.
3. Remove any build-up or corrosion on the battery with a baking soda and water solution.
4. Cover the battery terminals with grease to prevent corrosion.
5. Check all electrical wires for loose connections.

Air Filter Replacement:

1. Remove the deck and engine hood.
2. Remove the Donaldson air filter cover.
3. Remove the air filter from the housing.
4. Replace the air filter.
5. Replace the Donaldson air filter cover.
6. Replace the deck and engine hood.

End Of Season Storage:

•Change the oil and oil filter.
•Clean and replace the pre-cleaner filter.
•Clean any dirt and debris from the muffler area of the engine.
•If storing longer than 30 days, use a gas stabilizer.
•Close the fuel shut-off valve.
•Remove any grass, weeds or brush from the blade and deck area.
•Store the battery in a dry area that will not freeze.
•Remove, sharpen or replace blades as necessary.

Engine Service:

1. Refer to the Kohler service manual for instructions.

Grease:

Grease all fittings (Blade Shaft, Counter Shaft) every 20 hours of operation.

Lubricate with the following greases or their equivalent:
Shell Alvania EP Grease No. 2 - Gulf Gulfcrown Grease No. 2 -
Texaco Molytex Grease No. 2 - American Amolith Grease No. 2 -
Mobil Mobilux EP2

SCHEDULED REPLACEMENT PARTS LIST

Note: These are only recommended replacement times. The replacement times on the parts in this list will vary depending on the work environment and operating habits.

Description	Part #	Hours	Required
Banded Kevlar Deck Belt	M0232	400	01
Kevlar Pump Belt	M0305	500	01
Banded Kevlar Drive Belt	M0233	300	01
Cutting Blades	TBB-0190	016	12
Cutting Teeth	TBB-0165	004	06
3/8”-16 x 3/4” SHCS - (For Mounting Cutting Blades)	K0297	025	16
Flail Hammer	TBB-0137	300	04
Pivot Bushing	TBB-0163	300	04
Flail Hammer Spacer	TBB-0178	300	04
3/4”-10 x 2-1/4” SHCS - (For Mounting Flail Hammer)	K0298	300	04
3/4” Nyloc Nut - (For Mounting Flail Hammer)	K0302	300	04
Blade Disc	TBB2-0043	600	02
1/2”-20 Nyloc Nut - (For Mounting Blade Disc)	K1018	600	10
Zinga Hydro Oil Filter	U0030	050	01
Kohler Engine Oil Filter	TBB-0239	200	01

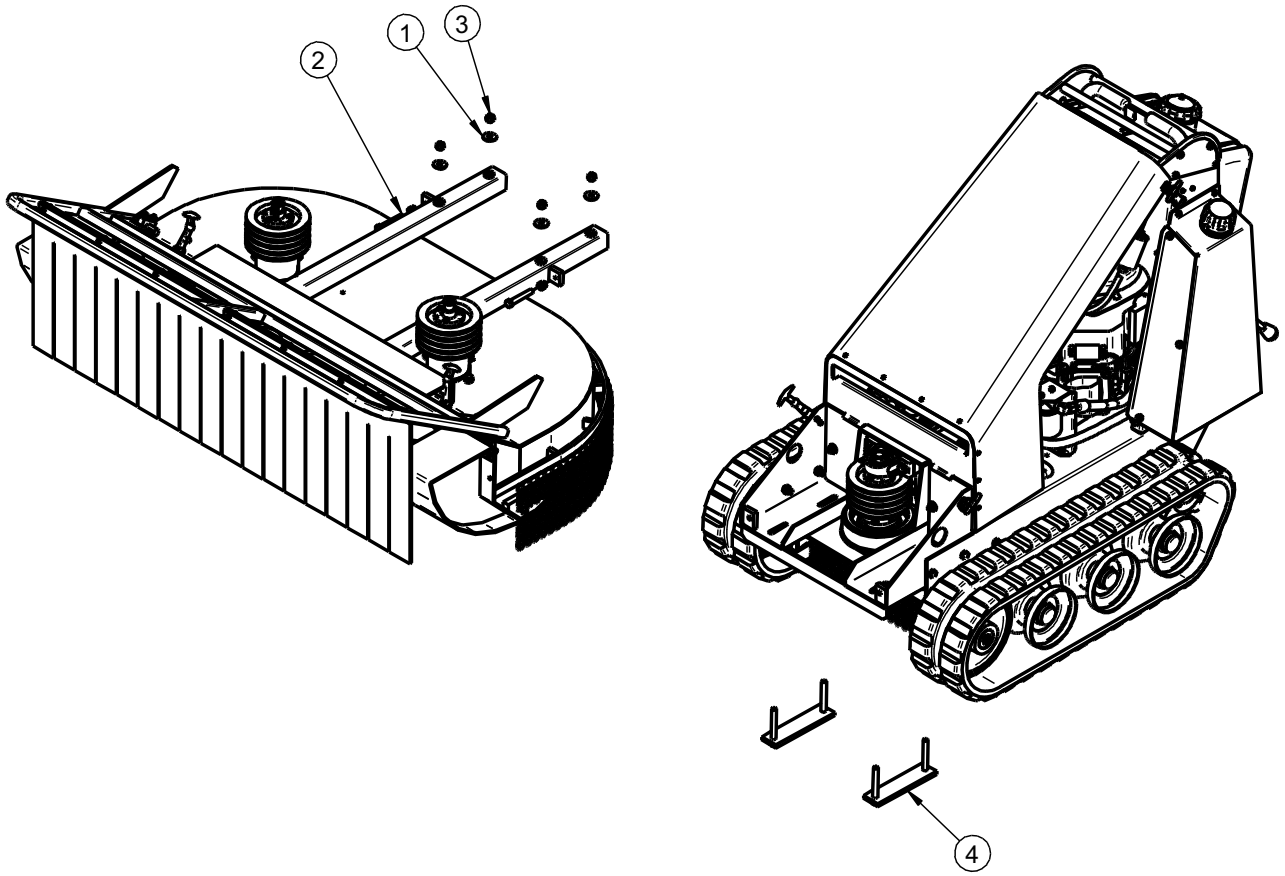
HYDRAULIC OIL

When replacing hydraulic fluid, the following grades and levels are approved for the Brush Blazer:

Mobil 1 Synthetic 5W-30, 10W-30, 15W-50
Amoco Ultimate 10W-40
Shell Gemini 10W-40, 15W-50
Helix Ultra 5W-40, 10W-40
Mobil Super HP 10W-40, 20W-50
Viscosity Oil 10W-40
Aero Shell 15W-50

Note: The Brush Blazer comes equipped with Aero Shell 15W-50

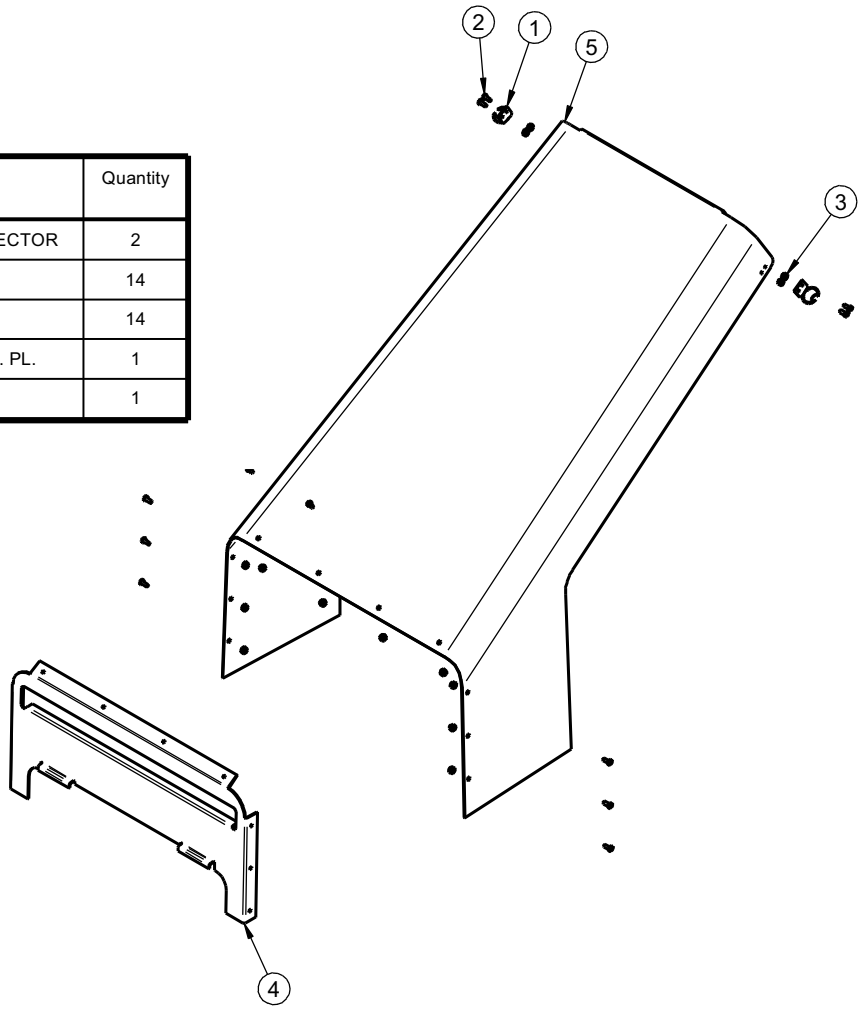
DECK TO CHASSIS
EXPLODED VIEW
AND PARTS LISTS



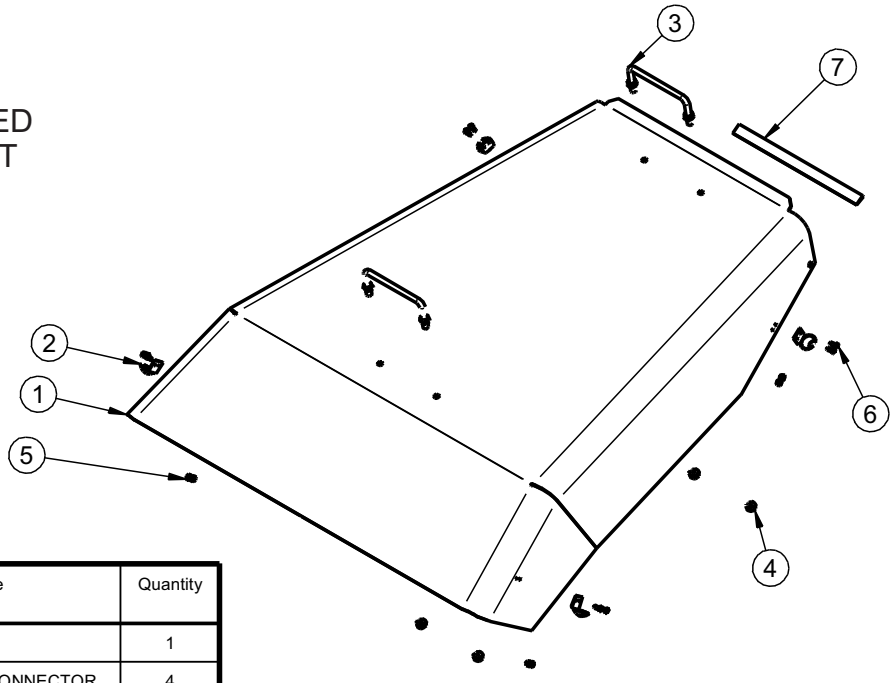
Item Number	Part Number	Title	Quantity
1	K0055	1/2" FLAT WASHER 1.383 OD x .560 ID x .120 T	4
2	K1036	1/2"-13 x 3" ALL THREAD HHCS	2
3	K1247	1/2"-13 NYLOC NUT	6
4	TBB2-0018	DECK MNTG. PLATE ASSY.	2

ENGINE HOOD EXPLODE VIEW AND PARTS LIST

Item Number	Part Number	Title	Quantity
1	J0240A	DRAW LATCH CONNECTOR	2
2	K1064	10-24 x 1/2" PSLMS	14
3	K1068	10-24 NYLOC NUT	14
4	TBB2-0044	CHASSIS HOOD MNT. PL.	1
5	TBB2-0045	CHASSIS HOOD	1

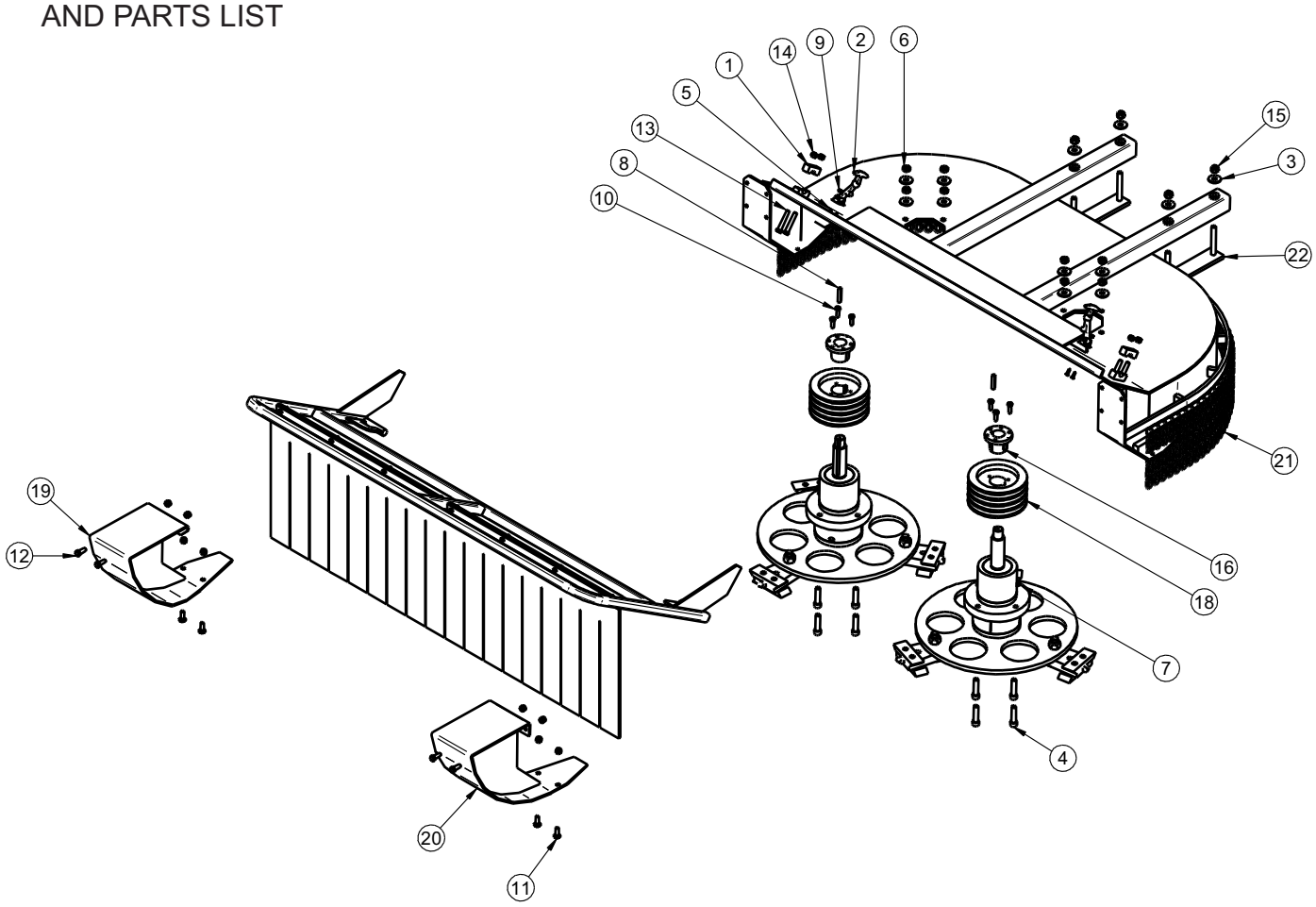


DECK HOOD EXPLODED VIEW AND PARTS LIST



Item Number	Part Number	Title	Quantity
1	TBB-0335	BELT HOOD	1
2	J0240A	DRAW LATCH CONNECTOR	4
3	K0323	HOOD HANDLE	2
4	K1215	3/8"-16 FLANGE NUT	8
5	K1068	10-24 NYLOC NUT	8
6	K1064	10-24 x 1/2" PSLMS	8
7	V0014	BELT HOOD SEAL	1

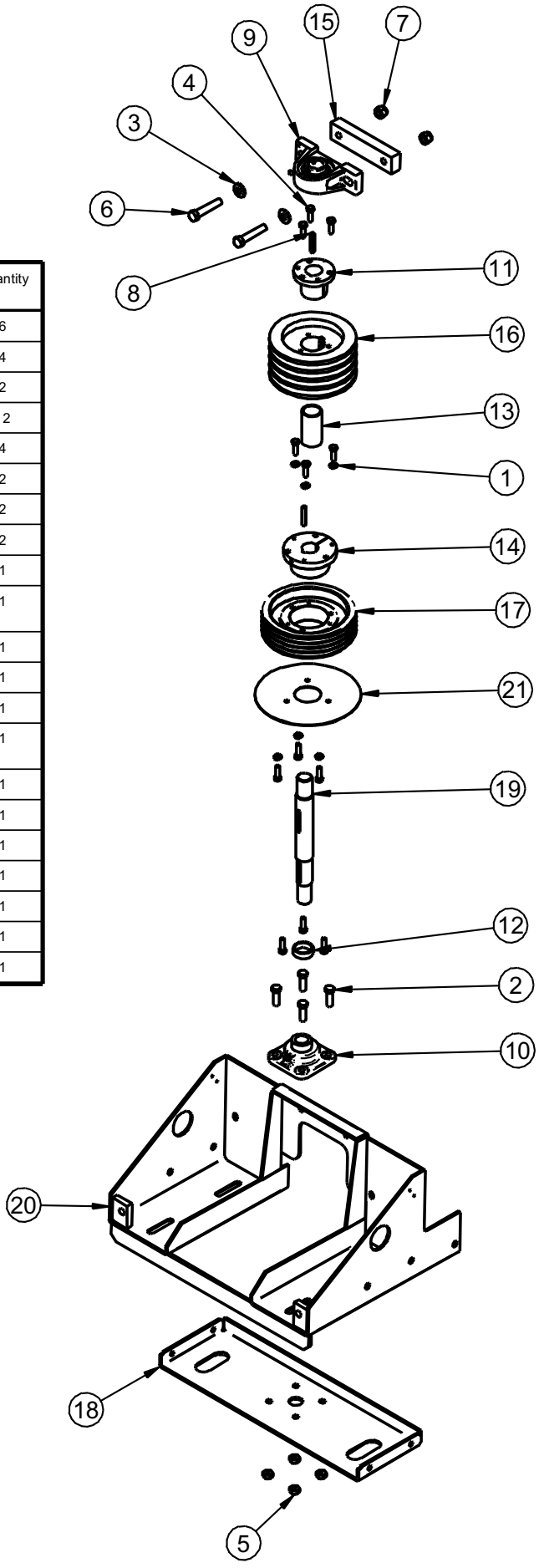
DECK ASSEMBLY EXPLODED VIEW AND PARTS LIST



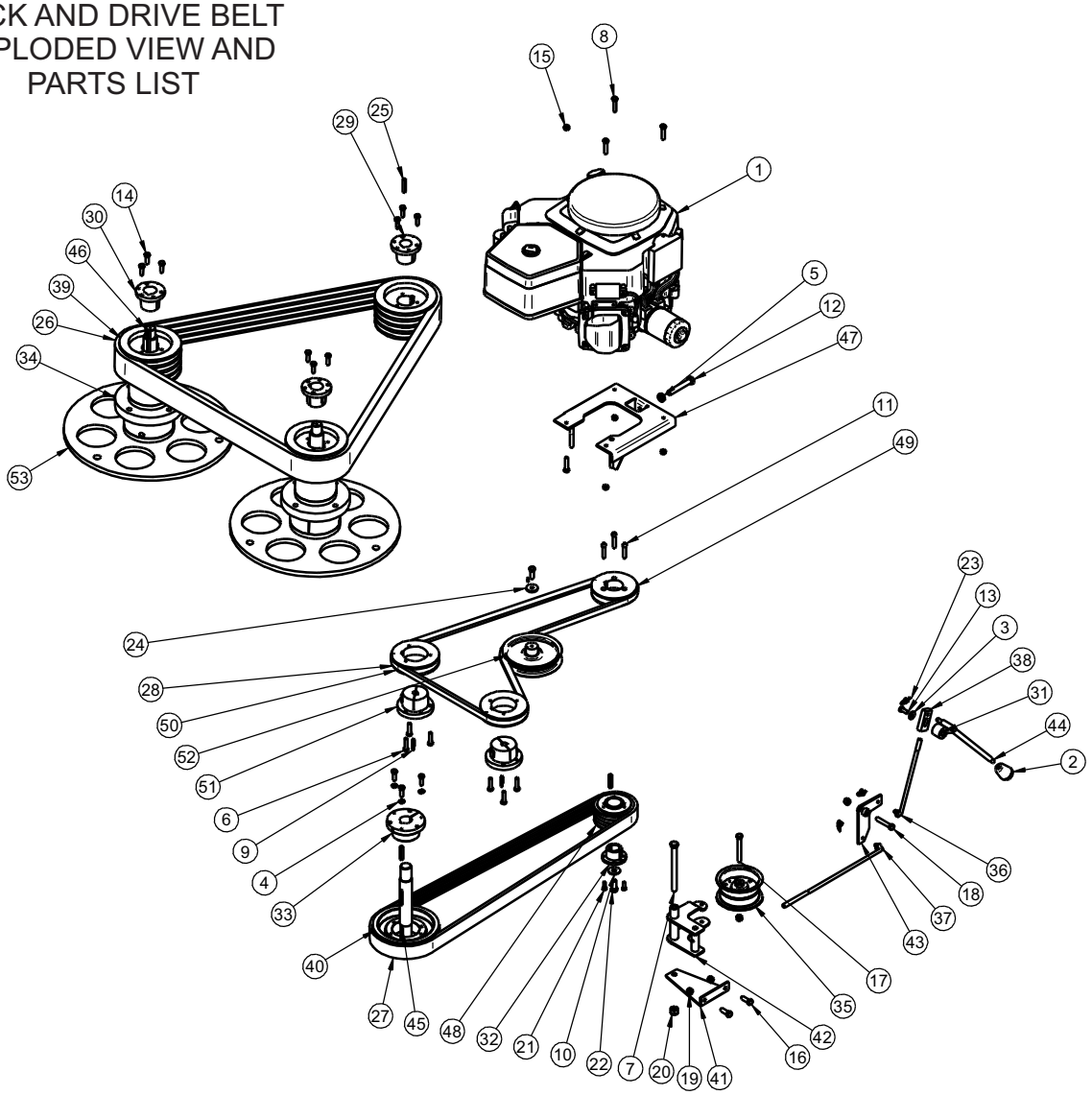
Item Number	Part Number	Title	Quantity
1	C7001	BRG. BLOCK	4
2	J0240	DRAW LATCH	2
3	K0055	1/2" FLAT WASHER 1.383 OD x .560 ID x .120 T	12
4	K0071	1/2"-13 x 2" SHCS	8
5	K0237	10-24 x 5/8" PSLMS	4
6	K0301	1/2"-13 C GRADE LOCK NUT	8
7	K0308	1/8" PIPE ZIRC FITTING	1
8	K0341	5/16" x 1-3/4" KEYSTOCK	2
9	K1068	10-24 NYLOC NUT	4
10	K1154	5/16"-18 x 1" HHCS	6
11	K1182	3/8"-16 x 1" CARRIAGE BOLT	4
12	K1191	3/8"-16 x 1" HHCS	4
13	K1196	3/8"-16 x 2 1/4" HHCS	4
14	K1216	3/8"-16 NYLOC NUT	12
15	K1247	1/2"-13 NYLOC NUT	4
16	S0163	TAPER BUSHING	2
17	TBB-0012	GATE WELDMENT	1
18	TBB-0161	DECK SHEAVE	2
19	TBB-0329	RIGHT DECK SKID ASSY	1
20	TBB-0330	LEFT DECK SKID ASSY	1
21	TBB-0331	DECK ASSY.	1
22	TBB2-0018	DECK MNTG. PLATE ASSY.	2

COUNTER SHAFT EXPLODED VIEW AND PARTS LIST

Item Number	Part Number	Title	Quantity
1	K0043	5/16" LOCK WASHER	6
2	K0328	7/16"-14 x 1-1/4" HHCS	4
3	K0400	1/2" SAE FLAT WASHER ZINC	2
4	K1154	5/16"-18 x 1" HHCS	12
5	K1228	7/16"-20 NYLOC NUT	4
6	K1235	1/2"-13 x 2-1/2" HHCS	2
7	K1247	1/2"-13 NYLOC NUT	2
8	K1626	KEYWAY 1/4" X 1.616	2
9	N0149	C. SHAFT PILLOW BEARING	1
10	N0150	FAFNIR FLANGE CARTRIDGE RCJ 1	1
11	S0160	TAPER BUSHING	1
12	S0173	SML. C. SHAFT SPACER	1
13	S0179	LRG. C. SHAFT SPACER	1
14	S0187	C. SHAFT DRIVE SHEAVE BUSHING	1
15	TBB-0021	BEARING SPACER BLOCK	1
16	TBB-0161	DECK SHEAVE	1
17	TBB-0162	C. SHAFT DRIVE SHEAVE	1
18	TBB-0233	LWR. C. SHAFT MNT.	1
19	TBB-0247	C. SHAFT	1
20	TBB-0250	C. SHAFT ASSY.	1
21	TBB-0267	BELT RETAINER DISC	1



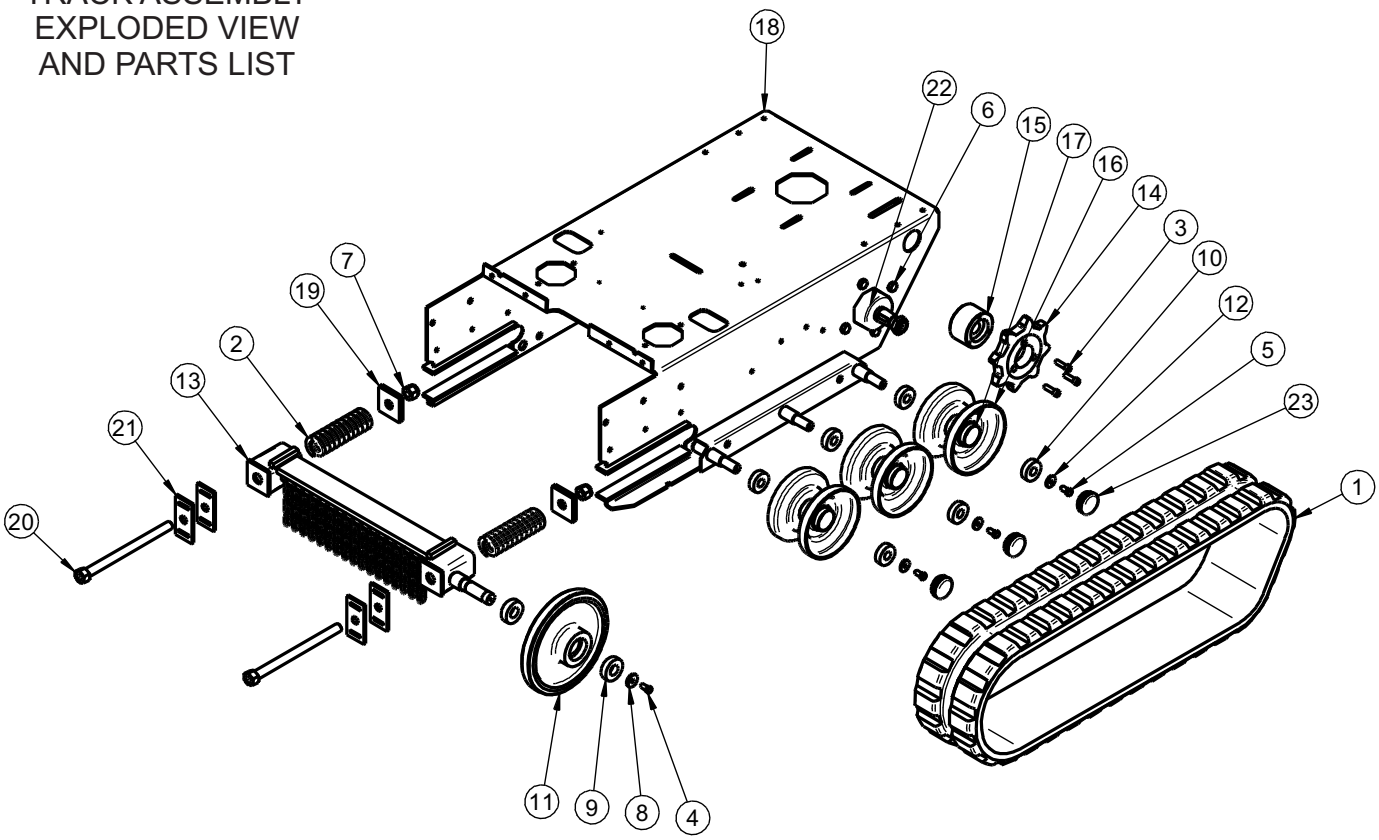
DECK AND DRIVE BELT EXPLODED VIEW AND PARTS LIST



Item Number	Part Number	Title	Quantity
1	D1018	KOHLER 26HP CV26	1
2	J0260	HANDLE KNOB	1
3	K0042	5/16" FLAT WASHER .875 OD x .380 ID x .075 T	1
4	K0043	5/16" LOCK WASHER	3
5	K0056	7/16" LOCK WASHER	1
6	K0118	5/16"-18 x 1-1/4" G8 HHCS	6
7	K0314	1/2-13 HHCS X 5-5/8"	1
8	K0316	5/16"-18 x 1-1/2" HHCS G8	4
9	K0339	KEYWAY .196 x 1.312	2
10	K0401	7/16" FLAT WASHER	1
11	K0404	5/16"-18 x 1-1/2" SHCS	3
12	K1036	1/2"-13 x 3" ALL THREAD HHCS	1
13	K1153	5/16"-18 x 3/4" HHCS	1
14	K1154	5/16"-18 x 1" HHCS	12
15	K1180	5/16"-18 NYLOC NUT	4
16	K1191	3/8"-16 x 1" HHCS	3
17	K1198	3/8"-16 X 3" HHCS	1
18	K1208	3/8"-16 x 2" HHCS	1
19	K1216	3/8"-16 NYLOC NUT	4
20	K1247	1/2"-13 NYLOC NUT	1
21	K1314	1/4"-20 x 3/4" HHCS G8	2
22	K1394	7/16"-20 x 1" HHCS GR. 5	1
23	K1437	RUE RING COTTER PIN	3
24	K1446	1.187 OD x .380 ID x .187 WASHER	1
25	K1626	KEYWAY 1/4" X 1.616	3
26	M0232	DECK BELT	1
27	M0233	DRIVE BELT	1
28	M0305	PUMP BELT	1

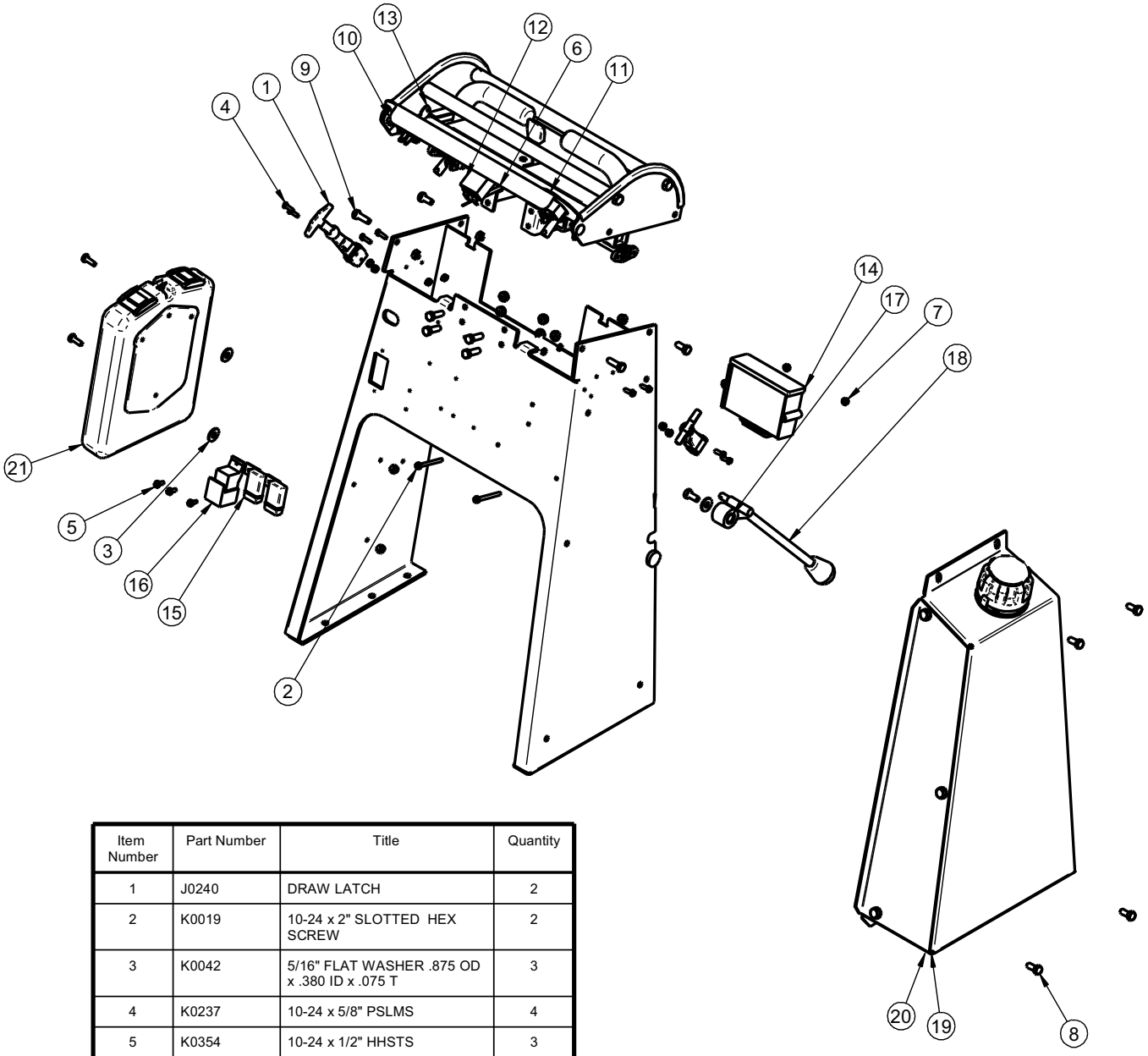
Item Number	Part Number	Title	Quantity
29	S0160	TAPER BUSHING	1
30	S0163	TAPER BUSHING	2
31	S0164	CLUTCH CONTROL BUSHING	1
32	S0180	ENGINE SHAFT SHEAVE BUSHING	1
33	S0187	C. SHAFT DRIVE SHEAVE BUSHING	1
34	TBB-0023	BLADE HUB	2
35	TBB-0056	CLUTCH IDLER PULLEY	1
36	TBB-0066	VERT. CLUTCH ROD	1
37	TBB-0094	HORIZ. CLUTCH ROD ASSY.	1
38	TBB-0103	VERT. CLUTCH ROD ADJ. BLOCK	1
39	TBB-0161	DECK SHEAVE	3
40	TBB-0162	C. SHAFT DRIVE SHEAVE	1
41	TBB-0206	CLUTCH PULLEY MNTG. BRKT.	1
42	TBB-0207	CLUTCH IDLER ASSY.	1
43	TBB-0225	CLUTCH CONTROL CRANK ASSY.	1
44	TBB-0244	BLADE ENGAGEMENT CONTROL	1
45	TBB-0247	C. SHAFT	1
46	TBB-0321	COMPLETE BLADE SHAFT ASSY.	2
47	TBB2-0075	MAIN DRIVE TAKE-UP ASSY.	1
48	TBB2-0077	ENGINE PULLEY	1
49	TBB2-0078	PUMP DRIVE PULLEY	1
50	TBB2-0079	PUMP PULLEY	2
51	TBB2-0080	BUSHING	2
52	TBB2-0083	PUMP IDLER PULLEY ASSY.	1
53	TBB2-0088	BLADE DISC ASSY	2

TRACK ASSEMBLY EXPLODED VIEW AND PARTS LIST



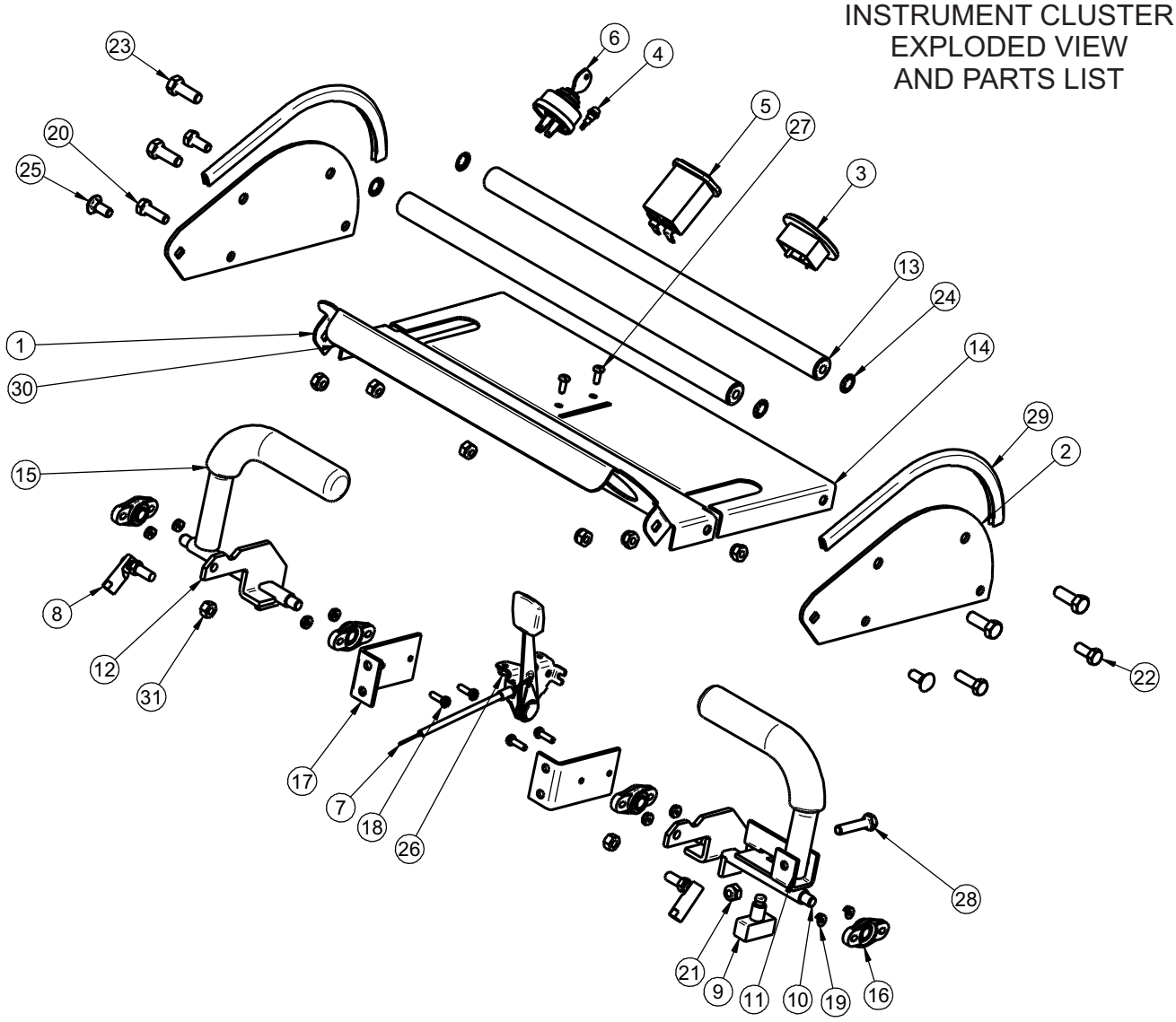
Item Number	Part Number	Title	Quantity
1	H0143	RUBBER TRACK	1
2	J0263	EXTRA HEAVY DUTY DIE SPRING	2
3	K0309	3/8"-16 x 1" SHCS	3
4	K0340	3/8"-24 X 3/4" HHCS G5	1
5	K1190	3/8"-16 x 3/4" HHCS	3
6	K1317	1/2"-13 x 2-1/4" HHCS	4
7	K1433	3/4"-10 NYLOC NUT	2
8	K1446	1.187 OD x .380 ID x .187 WASHER	1
9	N0001	BEARING 2.0472 OD, 0.9843 ID, 0.5906 W (6205-2RS PEER)	2
10	N0151	IDLER WHEEL BRG.	6
11	RCBB-0297	FRONT AXLE WHEEL	1
12	S0175	WHEEL WASHER	3
13	TBB-0007	SPRING HSG. ASSY.	1
14	TBB-0126	DRIVE SPROCKET	1
15	TBB-0139	SPROKET HUB	1
16	TBB-0142	IDLER WHEEL HALF	2
17	TBB-0143	IDLER WHEEL BUSHING	1
18	TBB-0301	CHASSIS ASSY.	1
19	TBB-0304	SPRING TENSION NUT ASSY.	2
20	TBB-0308	3/4"-10 x 10-1/2" WELDED HHCS	2
21	TBB2-0040	SPRING HSG. TAKE-UP PL.	4
22	U0069	LEFT HYDRO MOTOR - 500	1
23	V1007	IDLER WHEEL END CAP	3

TOWER EXPLODED VIEW AND PARTS LIST



Item Number	Part Number	Title	Quantity
1	J0240	DRAW LATCH	2
2	K0019	10-24 x 2" SLOTTED HEX SCREW	2
3	K0042	5/16" FLAT WASHER .875 OD x .380 ID x .075 T	3
4	K0237	10-24 x 5/8" PSLMS	4
5	K0354	10-24 x 1/2" HHSTS	3
6	K0393	10-24 x 5/8" HWHSMS	5
7	K1068	10-24 NYLOC NUT	7
8	K1153	5/16"-18 x 3/4" HHCS	7
9	K1154	5/16"-18 x 1" HHCS	6
10	K1180	5/16"-18 NYLOC NUT	14
11	P0081	BATTERY CHARGE METER	1
12	P0164	SENDEC HOUR METER	1
13	P0183	KEY SWITCH	1
14	P0184	ENGINE COMPUTER	1
15	P0187	FUSE BLOCK	2
16	P0188	RELAY	1
17	S0164	CLUTCH CONTROL BUSHING	1
18	TBB-0244	BLADE ENGAGEMENT CONTROL	1
19	TBB-0311	HYDRO TANK ASSY.	1
20	TBB-0314	HYDRO TANK COVER	1
21	V1165	MANUAL CASE	1

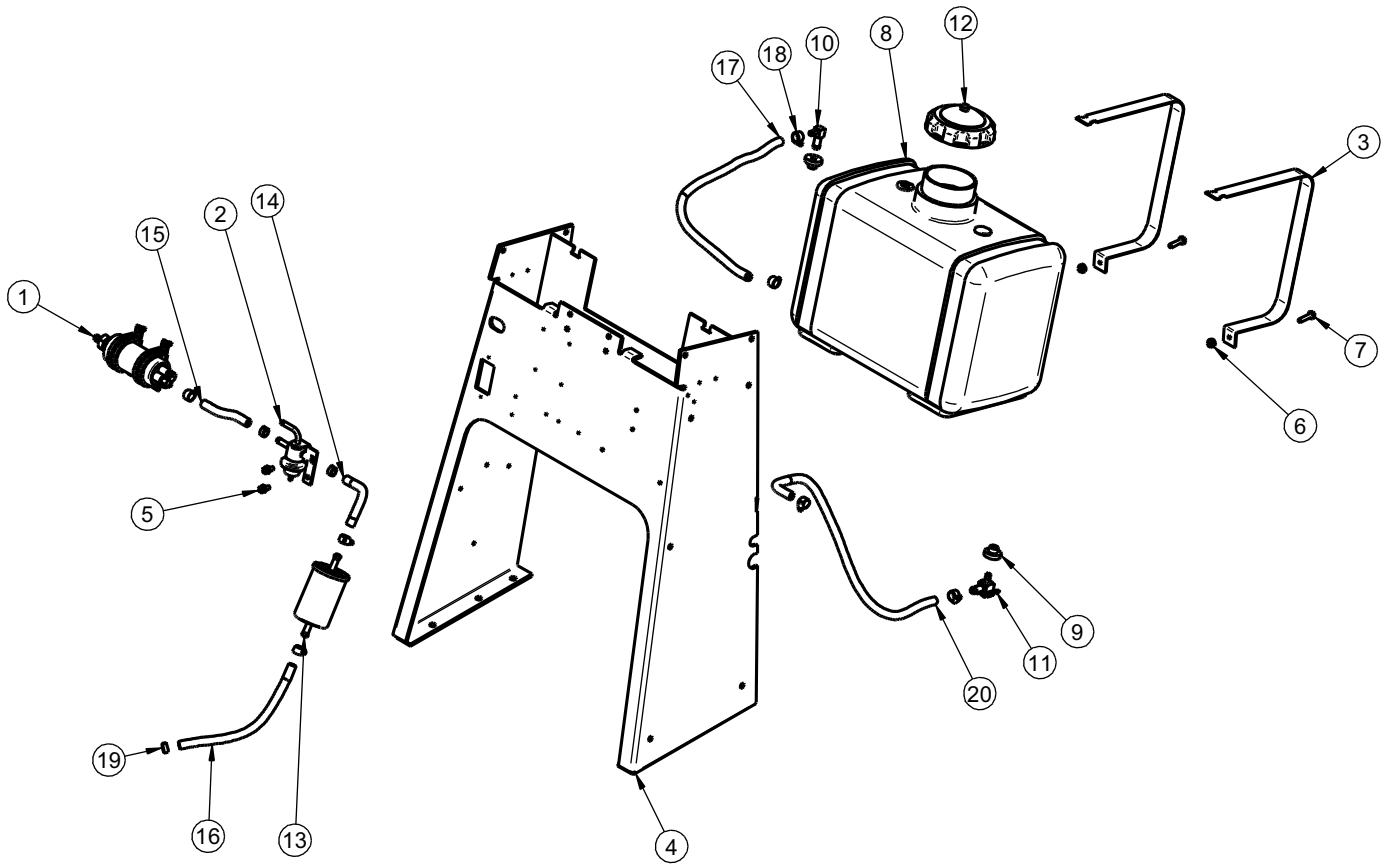
INSTRUMENT CLUSTER EXPLODED VIEW AND PARTS LIST



Item Number	Part Number	Title	Quantity
1	TBB2-0034	GAGE DASH PANEL	1
2	TBB2-0035	DASH PANEL GUARD	2
3	P0081	BATTERY CHARGE METER	1
4	P0119	ENGINE LED LIGHT	1
5	P0164	SENDEC HOUR METER	1
6	P0183	KEY SWITCH	1
7	J0262	THROTTLE CABLE	1
8	K1442	BALL JOINT 5/16"-24 RH THD.	2
9	P0082	OPS SWITCH	1
10	FRSA-003	FRS OPS SHAFT ASSY.	1
11	FRSA-004	FRS OPS HANDLE ASSY.	1
12	FRSA-002	FRS HANDLE ASSY.	1
13	TBB2-0048	FRS GRAB BAR ASSY.	2
14	TBB2-0049	CONTROL DASH PANEL	1
15	J0281	BLACK GRIP .840 ID x 6 L x .187 WALL	2
16	N0155	FLANGE MNT. BRG.	4
17	FRS-011	FRS MNT. BRKT.	2

Item Number	Part Number	Title	Quantity
18	K0393	10-24 x 5/8" HWHSMS	4
19	K0394	10-24 HEX NUT WITH SERRATED WASHER	8
20	K1154	5/16"-18 x 1" HHCS	2
21	K1180	5/16"-18 NYLOC NUT	7
22	K1153	5/16"-18 x 3/4" HHCS	2
23	K1191	3/8"-16 x 1" HHCS	4
24	K0049	3/8" INTERNAL LOCK WASHER	4
25	K1142	5/16"-18 x 3/4" CARRIAGE BOLT	2
26	K1068	10-24 NYLOC NUT	2
27	K1064	10-24 x 1/2" PSLMS	2
28	K1157	5/16"-18 x 1-1/2" ALL THREAD HHCS	1
29	V0013	DASH PANEL GUARD COVER	2
30	V0014	BELT HOOD SEAL	1
31	K1444	5/16"-24 HEX NUT	2

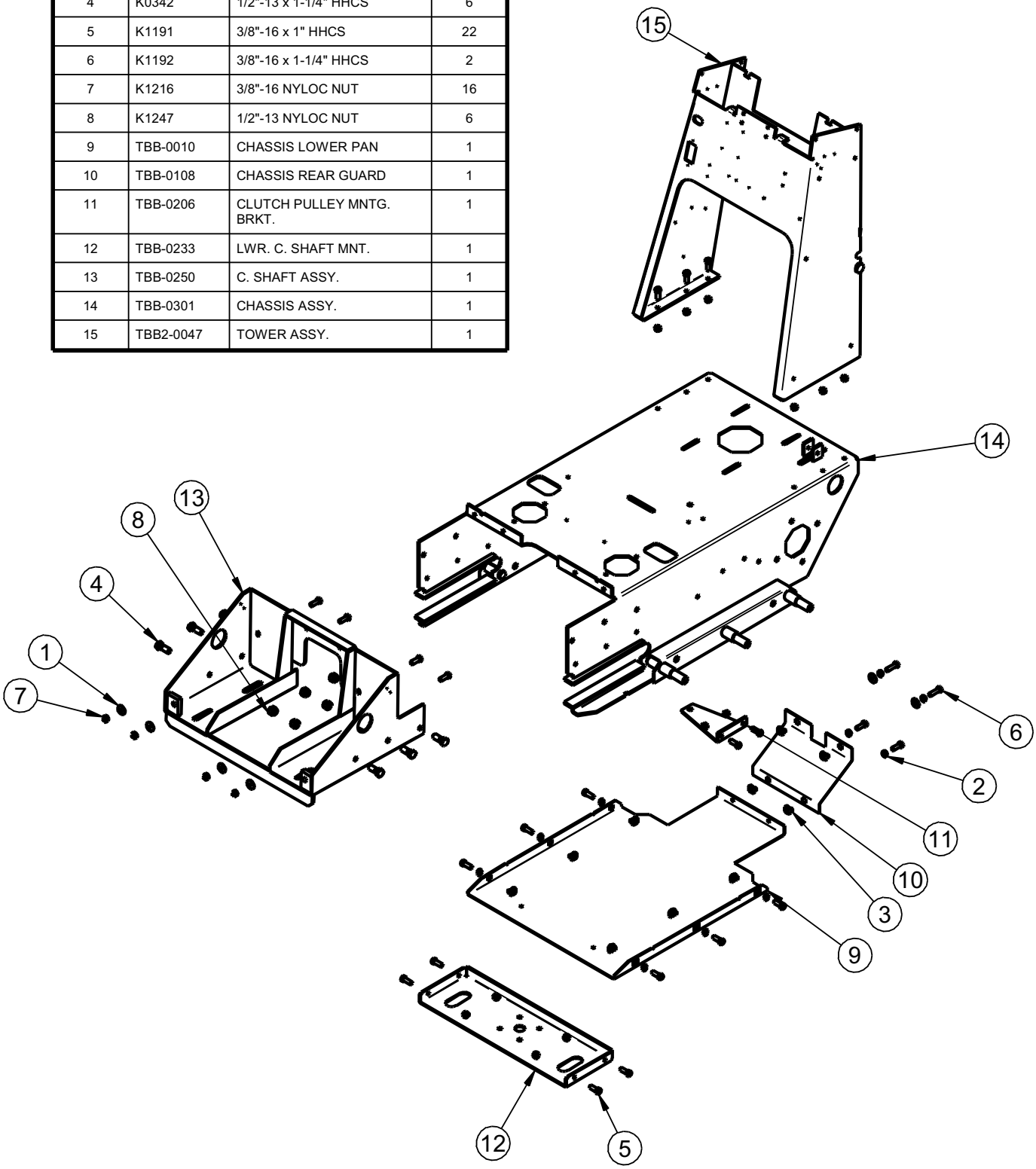
FUEL LINE EXPLODED VIEW AND PARTS LIST



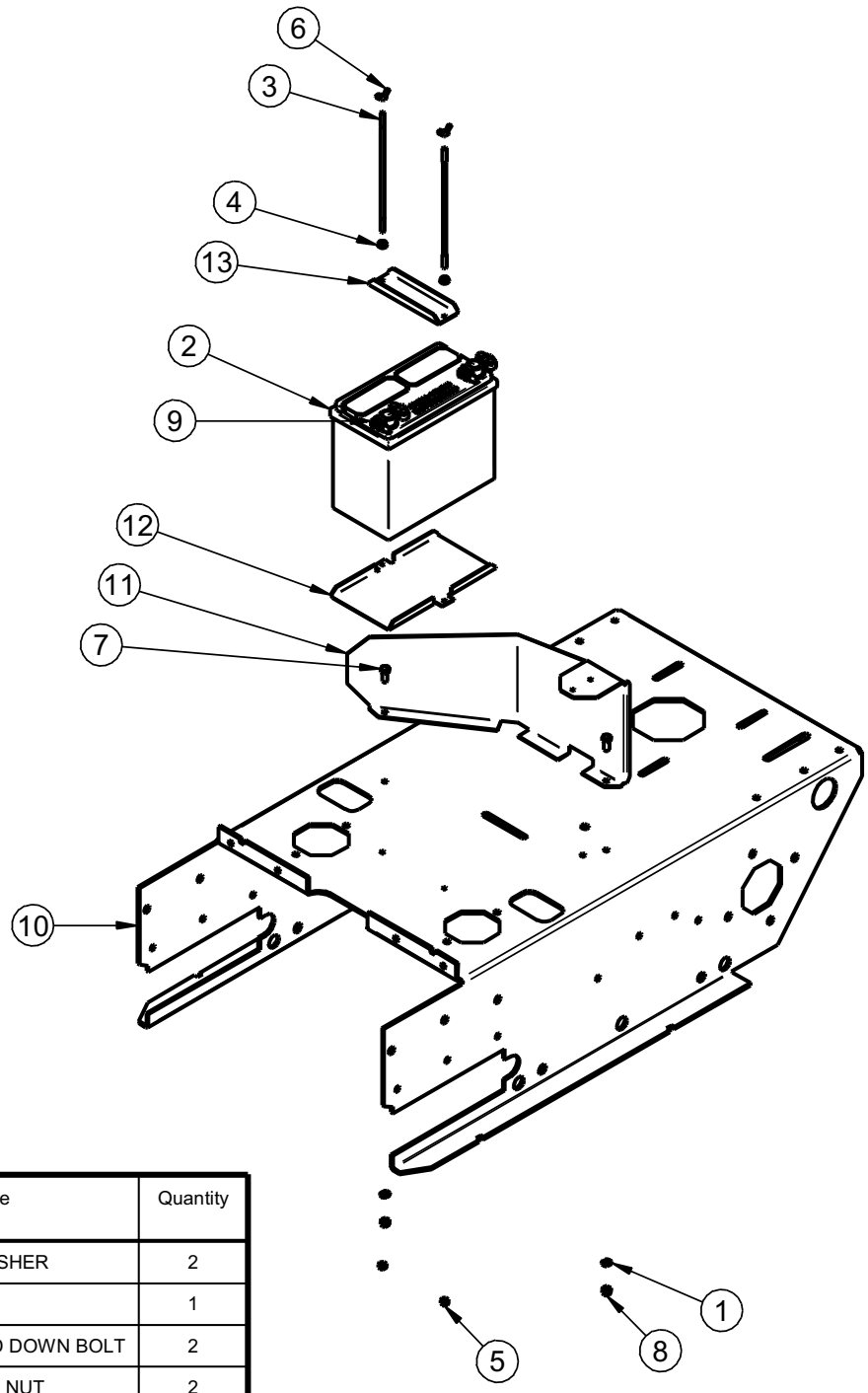
Item Number	Part Number	Title	Quantity
1	P0185	FUEL PUMP	1
2	P0186	RETURN FUEL VALVE	1
3	TBB2-0039	FUEL TANK STRAP	2
4	TBB-0309	TOWER ASSY.	1
5	K0353	1/4"-20 x 1/2" HHSTS	2
6	K1128	1/4"-20 NYLOC NUT	2
7	K1125	1/4"-20 X 1" HHCS	2
8	X1049	FUEL TANK	1
9	X1051	FUEL VALVE BUSHING	2
10	X1060	FUEL TANK ELBOW	1
11	X1050	FUEL VALVE	1
12	X1052	FUEL TANK CAP	1
13	X1026	FUEL FILTER EFI	1
14	X1066	FUEL LINE 1/4" x 7"	1
15	X1067	FUEL LINE 1/4" x 3"	1
16	X1065	FUEL LINE 1/4" x 7"	1
17	X1069	FUEL LINE 1/4" x 15"	1
18	J0129	THREADED HOSE CLAMP	7
19	J0130	CRIMP HOSE CLAMP	3
20	X1068	FUEL LINE 1/4" x 17"	1

CHASSIS COMPONENTS EXPLODED VIEW AND PARTS LIST

Item Number	Part Number	Title	Quantity
1	K0047	3/8" FLAT WASHER 1.00 OD x .446 ID x .075 T	6
2	K0048	3/8" LOCK WASHER	10
3	K0296	3/8" 16 CAGE NUT	10
4	K0342	1/2"-13 x 1-1/4" HHCS	6
5	K1191	3/8"-16 x 1" HHCS	22
6	K1192	3/8"-16 x 1-1/4" HHCS	2
7	K1216	3/8"-16 NYLOC NUT	16
8	K1247	1/2"-13 NYLOC NUT	6
9	TBB-0010	CHASSIS LOWER PAN	1
10	TBB-0108	CHASSIS REAR GUARD	1
11	TBB-0206	CLUTCH PULLEY MNTG. BRKT.	1
12	TBB-0233	LWR. C. SHAFT MNT.	1
13	TBB-0250	C. SHAFT ASSY.	1
14	TBB-0301	CHASSIS ASSY.	1
15	TBB2-0047	TOWER ASSY.	1

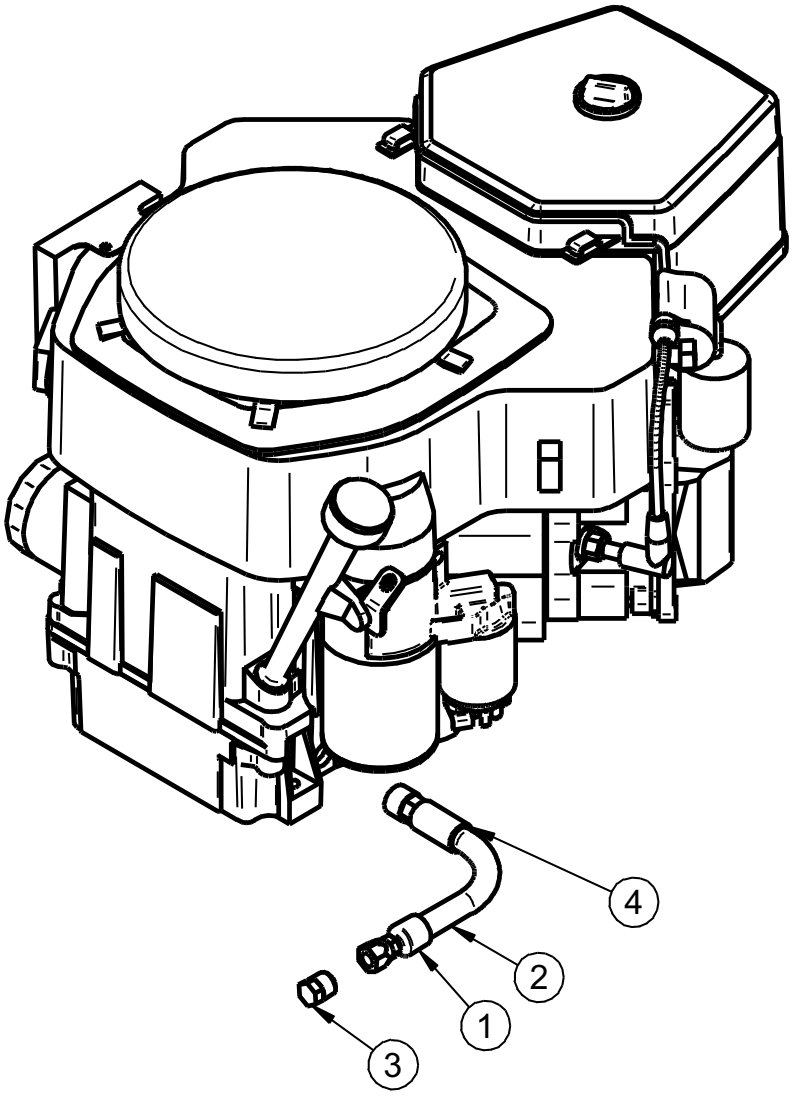


BATTERY AND MUFFLER GUARD
EXPLODED VIEW AND PARTS LIST



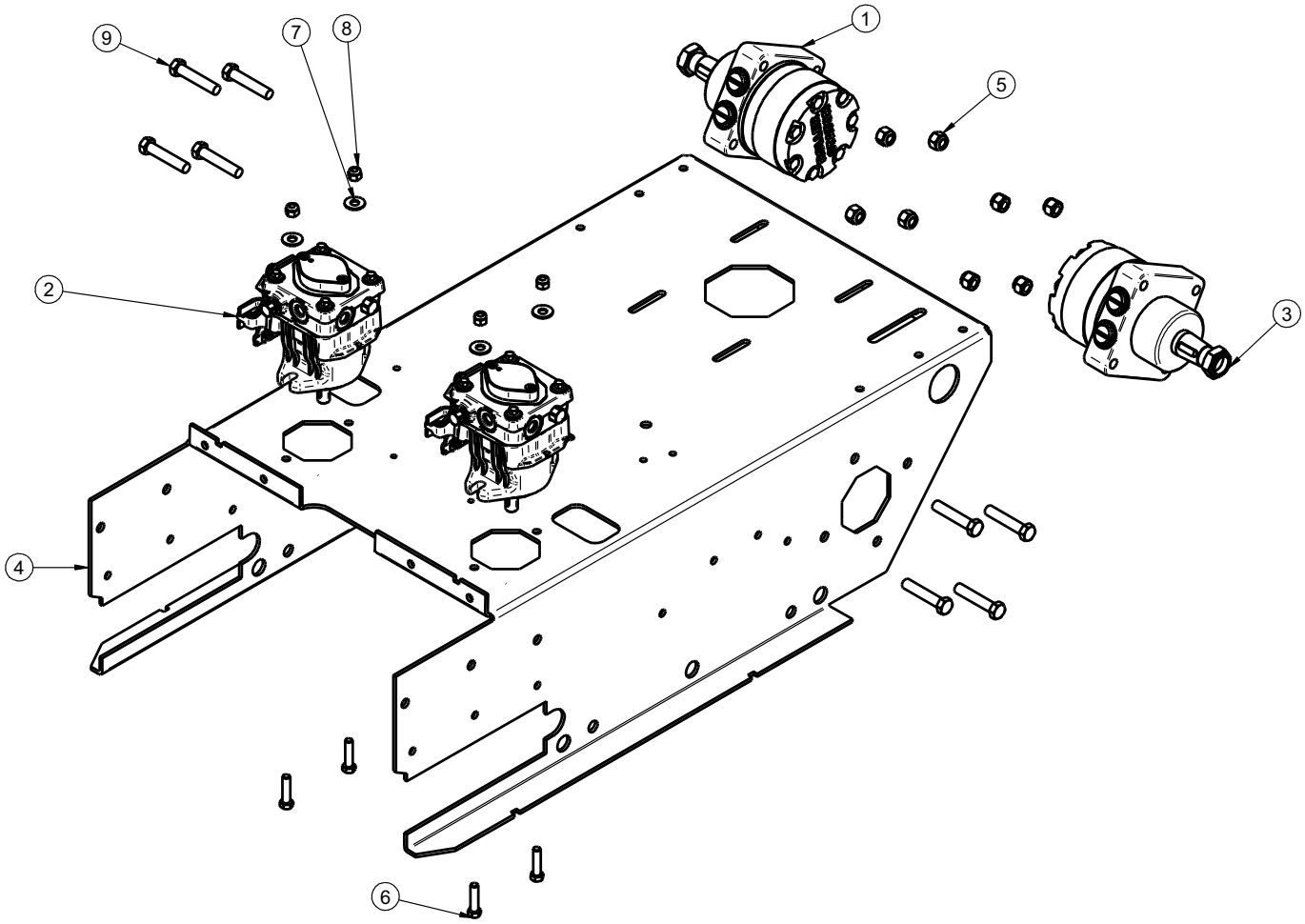
Item Number	Part Number	Title	Quantity
1	K0043	5/16" LOCK WASHER	2
2	K0085	BATTERY	1
3	K0310	BATTERY HOLD DOWN BOLT	2
4	K1126	1/4"-20 FLANGE NUT	2
5	K1128	1/4"-20 NYLOC NUT	2
6	K1129	1/4"-20 WING NUT	2
7	K1153	5/16"-18 x 3/4" HHCS	2
8	K1180	5/16"-18 NYLOC NUT	2
9	P0206	BATTERY TERMINAL	2
10	TBB-0301	CHASSIS ASSY.	1
11	TBB-0316	MUFFLER GUARD	1
12	TBB-0317	BATTERY MNT. PLATE	1
13	TBB2-0082	BATTERY CLAMP PL.	1

OIL DRAIN EXPLODED VIEW
AND PARTS LIST



OIL DRAIN ASSEMBLY COMPONENTS			
Item Number	Part Number	Title	Quantity
1	U0044	3/8" CRIMP FITTING	1
2	U0086	HYDRAULIC HOSE	1
3	U0087	3/8" STRAIGHT THREAD PLUG	1
4	U0089	3/8" CRIMP FITTING	1

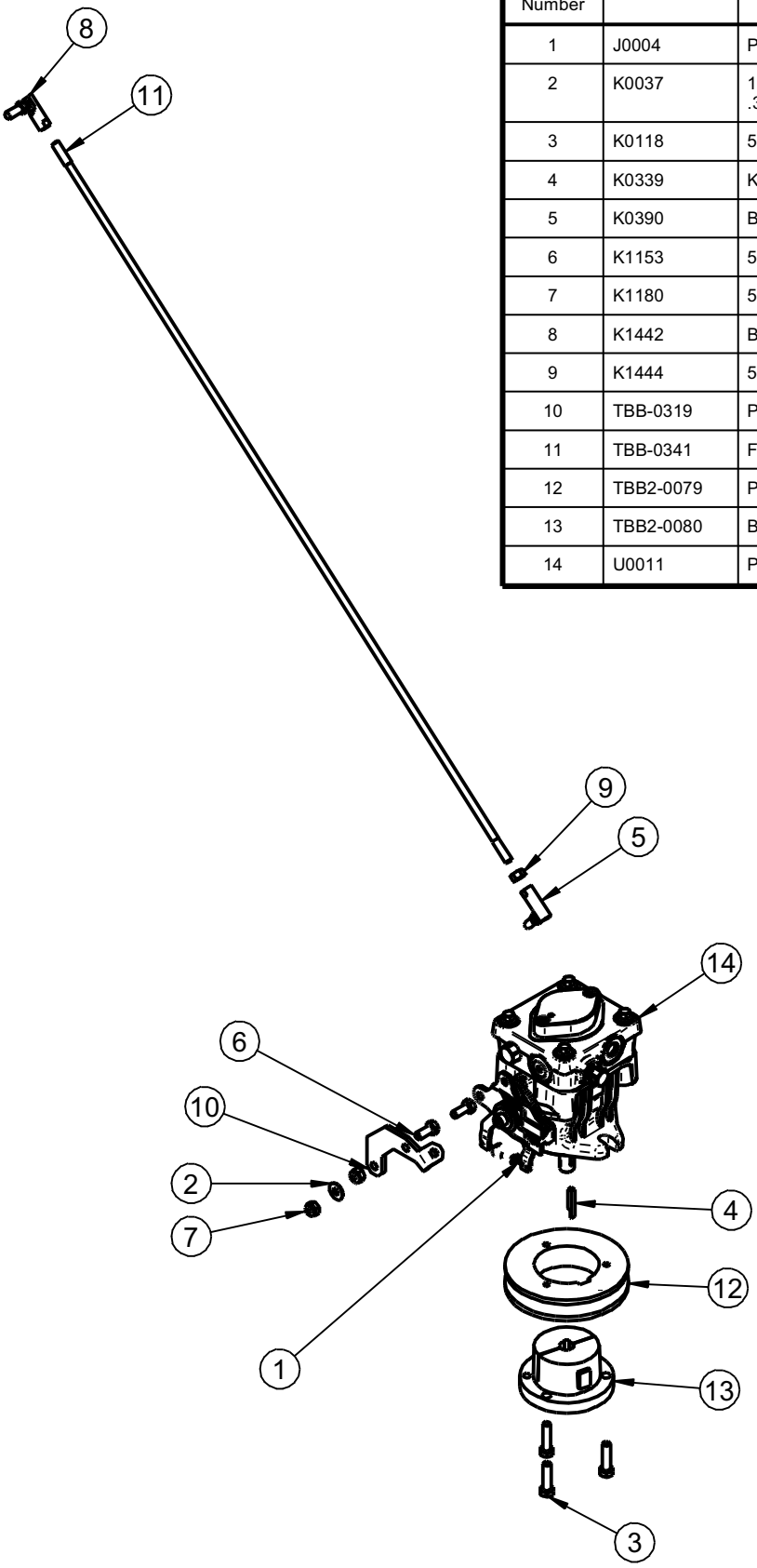
HYDRAULIC COMPONENTS
EXPLODED VIEW
AND PARTS LIST



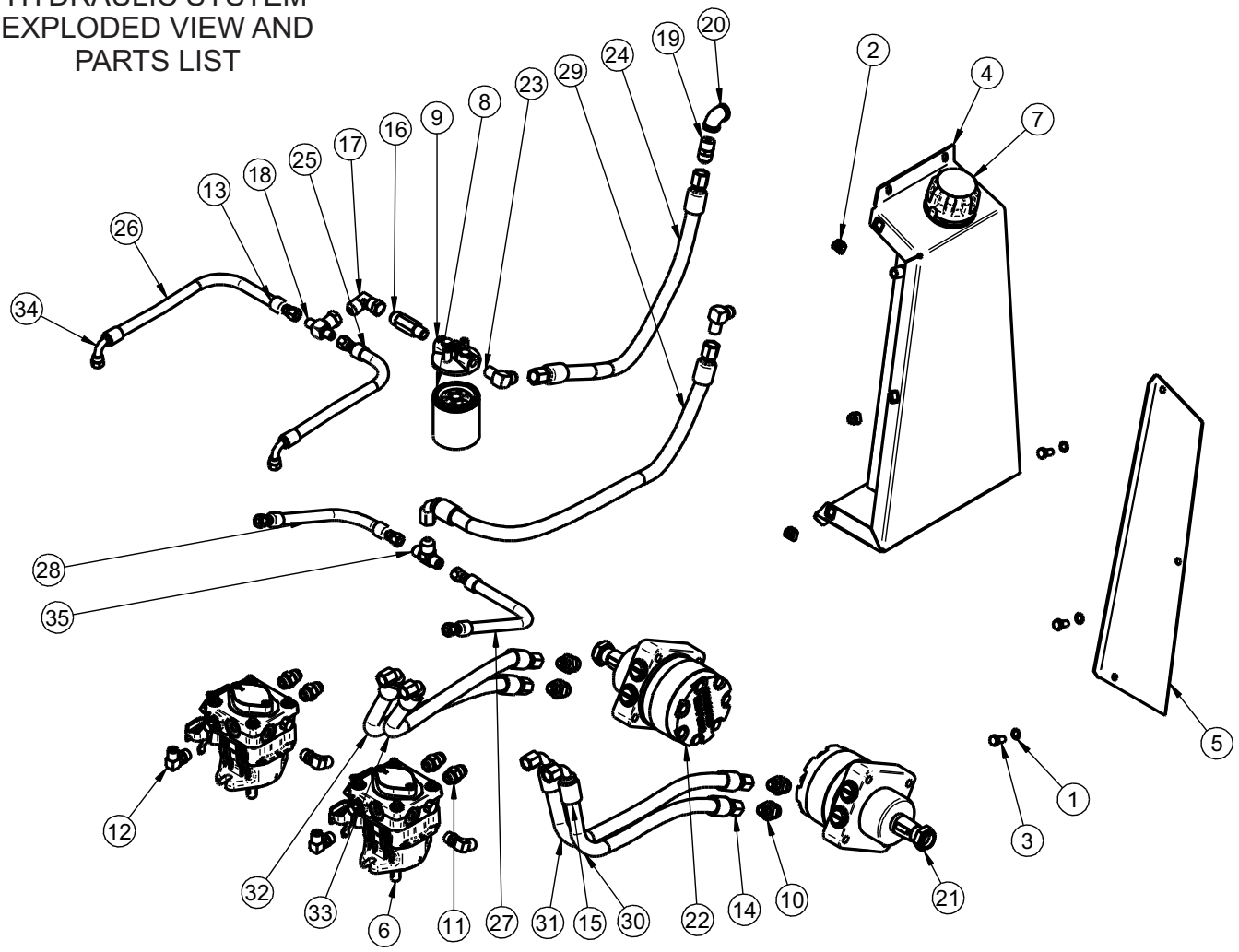
Item Number	Part Number	Title	Quantity
1	U0070	RIGHT HYDRO MOTOR - 501	1
2	TBB-0318	PUMP ASSY.	2
3	U0069	LEFT HYDRO MOTOR - 500	1
4	TBB-0301	CHASSIS ASSY.	1
5	K1247	1/2"-13 NYLOC NUT	8
6	K1337	3/8"-16 x 2-1/4" HHCS	4
7	K0047	3/8" FLAT WASHER 1.00 OD x .446 ID x .075 T	4
8	K1216	3/8"-16 NYLOC NUT	4
9	K1235	1/2"-13 x 2-1/2" HHCS	8

FRS/PUMP ASSEMBLY EXPLODED VIEW AND PARTS LIST

Item Number	Part Number	Title	Quantity
1	J0004	PUMP SPRING	1
2	K0037	1/4" FLAT WASHER .75 OD x .314 ID x .060 T	1
3	K0118	5/16"-18 x 1-1/4" G8 HHCS	3
4	K0339	KEYWAY .196 x 1.312	1
5	K0390	BALL JOINT 5/16"-24 LH THD.	1
6	K1153	5/16"-18 x 3/4" HHCS	2
7	K1180	5/16"-18 NYLOC NUT	2
8	K1442	BALL JOINT 5/16"-24 RH THD.	1
9	K1444	5/16"-24 HEX NUT	1
10	TBB-0319	PUMP LEVER PL.	1
11	TBB-0341	FRS ROD	1
12	TBB2-0079	PUMP PULLEY	1
13	TBB2-0080	BUSHING	1
14	U0011	PUMP	1



HYDRAULIC SYSTEM EXPLODED VIEW AND PARTS LIST



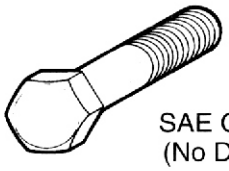
Item Number	Part Number	Title	Quantity
1	K0049	3/8" INTERNAL LOCK WASHER	3
2	K0296	3/8" 16 CAGE NUT	3
3	K1190	3/8"-16 x 3/4" HHCS	3
4	TBB-0311	HYDRO TANK ASSY.	1
5	TBB-0314	HYDRO TANK COVER	1
6	TBB-0318	PUMP ASSY.	2
7	U0002	ZINGA FILLER BREATHER	1
8	U0030	ZINGA OIL FILTER	1
9	U0031	OIL FILTER CAP	1
10	U0038	1/2" STRAIGHT THREAD CONNECTOR	4
11	U0039	1/2" STRAIGHT THREAD CONNECTOR	4
12	U0042	3/8" ELBOW WITH O-RING	4
13	U0044	3/8" CRIMP FITTING	6
14	U0049	1/2" CRIMP FITTING FEMALE	7
15	U0050	1/2" 90 ELBOW	5
16	U0051	1/2" STRAIGHT CONNECTOR	1
17	U0052	90 SWIVEL ELBOW 1/2" NPT	1
18	U0053	TEE 3/8" X 3/8" X 1/2"	1

Item Number	Part Number	Title	Quantity
19	U0054	STRAIGHT CONNECTOR 1/2" NPT	1
20	U0064	90 DEGREE ELB 1/2" BLK	1
21	U0069	LEFT HYDRO MOTOR - 500	1
22	U0070	RIGHT HYDRO MOTOR - 501	1
23	U0085	1/2" NPT 90 MALE ELBOW FITTING	2
24	U0091	1/2" x 18" HYDRAULIC HOSE	1
25	U0092	3/8" x 13-1/4" HYDRAULIC HOSE	1
26	U0093	3/8" HYDRAULIC HOSE	1
27	U0094	3/8" x 10" HYDRAULIC HOSE	1
28	U0095	3/8" x 10" HYDRAULIC HOSE	1
29	U0096	1/2" x 24-1/2" HYDRAULIC HOSE	1
30	U0097	1/2" x 19" HYDRAULIC HOSE	1
31	U0098	1/2" x 19" HYDRAULIC HOSE	1
32	U0099	1/2" x 18" HYDRAULIC HOSE	1
33	U0100	1/2" x 19" HYDRAULIC HOSE	1
34	U0111	3/8" 90 ELBOW	2
35	U0112	3/8" X 3/8" X 1/2" MALE TEE	1

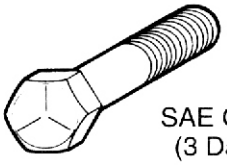
TORQUE SPECIFICATIONS

AMERICAN

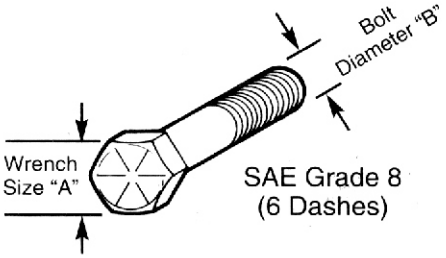
Bolt Head Markings



SAE Grade 2
(No Dashes)



SAE Grade 5
(3 Dashes)

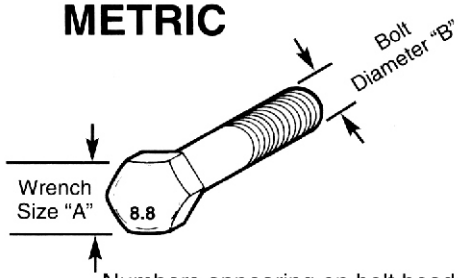


SAE Grade 8
(6 Dashes)

Recommended Torque in Foot Pounds (Newton Meters).*

WRENCH SIZE (IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	SAE GRADE 8
7/16	1/4 - 2O UNC	6 (7)	8 (11)	12 (16)
7/16	1/4 - 28 UNF	6 (8)	10 (13)	14 (18)
1/2	5/16 - 18 UNC	11 (15)	17 (23)	25 (33)
1/2	5/16 - 24 UNF	13 (17)	19 (26)	27 (37)
9/16	3/8 - 16 UNC	20 (27)	31 (42)	44 (60)
9/16	3/8 - 24 UNF	23 (31)	35 (47)	49 (66)
5/8	7/16 - 14 UNC	32 (43)	49 (66)	70 (95)
5/8	7/16 - 20 UNF	36 (49)	55 (75)	78 (106)
3/4	1/2 - 13 UNC	49 (66)	76 (103)	106 (144)
3/4	1/2 - 20 UNF	55 (75)	85 (115)	120 (163)
7/8	9/16 - 12 UNC	70 (95)	109 (148)	153 (207)
7/8	9/16 - 18 UNF	79 (107)	122 (165)	172 (233)
15/16	5/8 - 11 UNC	97 (131)	150 (203)	212 (287)
15/16	5/8 - 18 UNF	110 (149)	170 (230)	240 (325)
1-1/8	3/4 - 10 UNC	144 (195)	266 (360)	376 (509)
1-1/8	3/4 - 16 UNF	192 (260)	297 (402)	420 (569)
1-5/16	7/8 - 9 UNC	166 (225)	430 (583)	606 (821)
1-5/16	7/8 - 14 UNF	184 (249)	474 (642)	668 (905)
1-1/2	1 - 8 UNC	250 (339)	644 (873)	909 (1232)
1-1/2	1 - 12 UNF	274 (371)	705 (955)	995 (1348)
1-1/2	1 - 14 UNF	280 (379)	721 (977)	1019 (1381)
1-11/16	1-1/8 - 7 UNC	354 (480)	795 (1077)	1288(1745)
1-11/16	1-1/8 - 12 UNF	397 (538)	890 (1206)	1444 (1957)
1-7/8	1-1/4 - 7 UNC	500 (678)	1120 (1518)	1817 (2462)
1-7/8	1-1/4 - 12 UNF	553 (749)	1241 (1682)	2013 (2728)
2-1/16	1-3/8 - 6 UNC	655 (887)	1470 (1992)	2382 (3228)
2-1/16	1-3/8 - 12 UNF	746 (1011)	1672 (2266)	2712 (3675)
2-1/4	1-1/2 - 6 UNC	870 (1179)	1950 (2642)	3161 (4283)
2-1/4	1-1/2 - 12 UNF	979 (1327)	2194 (2973)	3557 (4820)

METRIC



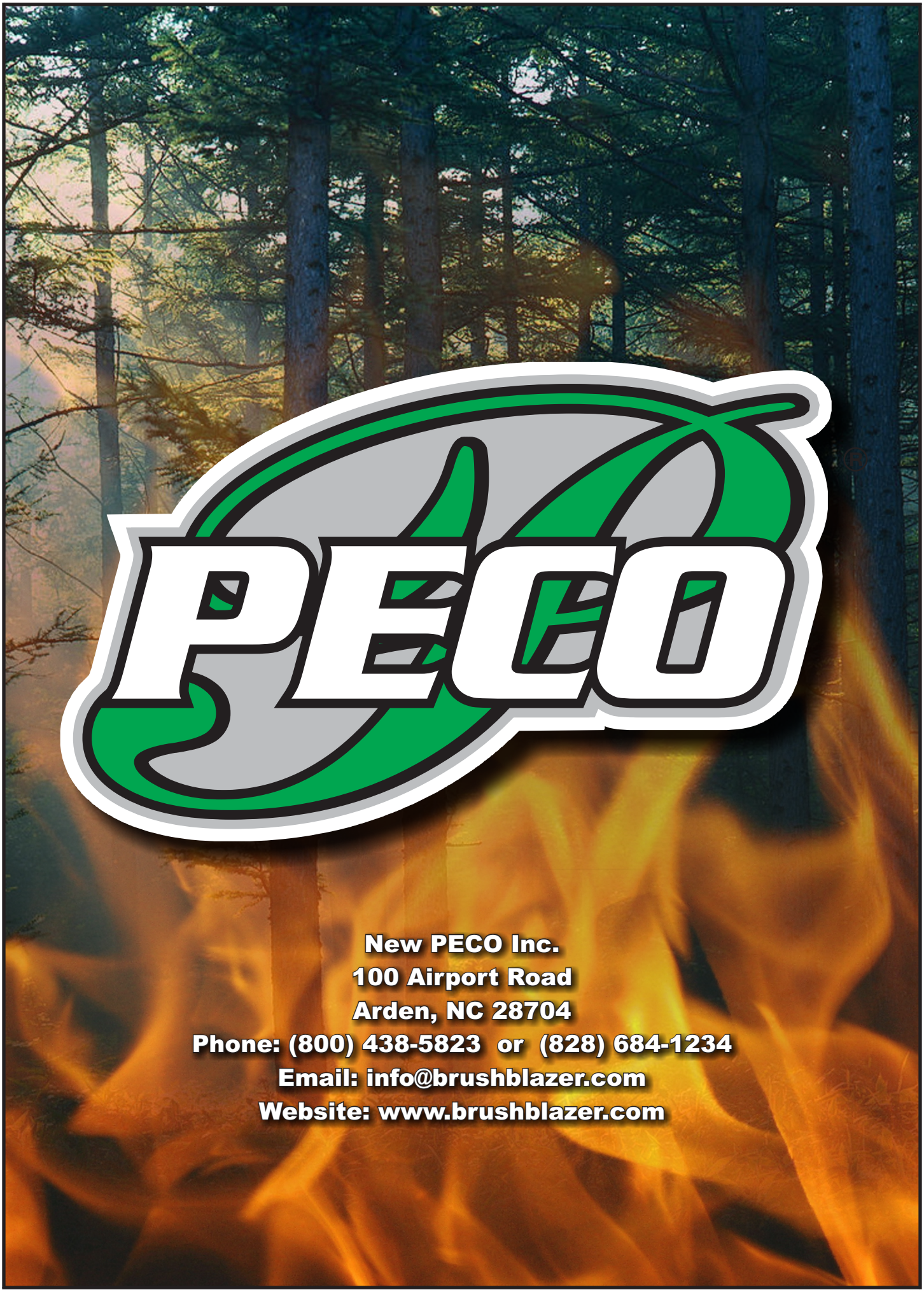
Numbers appearing on bolt heads indicate ASTM class.

Recommended torque in foot pounds (newton Meters).*

WRENCH SIZE (mm) "A"	BOLT DIA. (mm) "B"	ASTM 4.6	ASTM 8.8	ASTM 9.8	ASTM 10.9
8	5	1.8 (2.4)		5.1 (6.9)	6.5 (8.8)
10	6	3 (4)		8.7 (12)	11.1 (15)
13	8	7.3 (10)		21.1 (29)	27 (37)
16	10	14.5 (20)		42 (57)	53 (72)
18	12	25 (34)	74 (100)	73 (99)	93 (126)
21	14	40 (54)	118 (160)	116 (157)	148 (201)
24	16	62 (84)	167 (226)	181 (245)	230 (312)
30	20	122 (165)	325 (440)		449 (608)
33	22		443 (600)		611 (828)
36	24	211 (286)	563 (763)		778 (1054)
41	27		821 (1112)		1138 (1542)
46	30	418 (566)	1119 (1516)		1547 (2096)

*Use 75% of the specified torque value for plated fasteners. Use 85% of the specified torque values for lubricated fasteners.

Notes:



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