



Twister Manual



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Congratulations on your decision to get the Power of SASE behind you! SASE is committed to excellence, excellence in the quality of products we sell and excellence in service and support after the sale. It is important to us that your business continues to succeed and grow, and we know that the right products, service and support can have a great impact on your bottom line.

SASE has made great strides in the concrete preparation and polishing industry over the years. With a 40,000 square foot distribution and service facility in Seattle, a 22,000 square foot distribution and service facility in Knoxville, and local sales and technical support representatives throughout the United States, SASE is able to provide unsurpassed service and technical support for the contractor.

At SASE we engineer and manufacture our own equipment, which allows us to be in control of the quality of the equipment we sell. SASE offers a complete line of concrete preparation and polishing equipment, our newest introduction being our new line of PDG planetary diamond grinders, which is setting a new standard for the concrete grinding and polishing industry. SASE is also the leader in diamond tooling technology.

We look forward to a long and prosperous partnership with you! Thank you again for choosing SASE. You won't regret having the Power of SASE behind your company!

Sincerely,

SASE Company, Inc.

Jim Weder

President

SASE Company Inc. Equipment Safety Policy Statement

SASE Company, Inc. is adamant that safety is one of the highest priorities for both our employees and customers. When considering set-up and operation of any piece of equipment supplied, manufactured, distributed, rented or serviced by SASE Company, Inc., the safety and protection of people should always be a top priority.

All customers and employees should follow all OSHA and local safety standards, requirements and regulations.

The use of the following safety equipments are both recommended and required when operating any piece of equipment supplied, manufactured, distributed, rented or serviced by SASE Company, Inc.

- OSHA approved/certified eye protection (safety glasses).
- OSHA approved/certified hearing and ear protection.
- OSHA approved/certified foot protection (steel toed boots).
- OSHA approved/certified respirator or breathing device.
- OSHA approved head protection (hard hat).
- Proper protective work gloves.
- Proper protective clothing limiting skin exposure.

(The list is not meant to be all inclusive. Please exercise sound judgments during operation.)

The work area must always have proper ventilation to minimize the health and safety risks of propane and gasoline emissions and airborne dust.

All SASE Company Equipment is engineered, designed and provided with dust control shrouds and vacuum ports. It is strongly recommended that an approved dust containment system be connected to and used in conjunction with all SASE Company equipment during operational use. SASE Company supplies, distributes, rents and services dust control systems with HEPA filtration.

Extreme caution must be exercised at all times when electrical power is considered. All SASE employees are prohibited from working on or hard wiring our equipments to any power source that has not been provided by SASE Company Inc. Any such work must be performed by a certified electrical technician. No SASE employee is permitted or authorized to work on, operate, or connect our equipment or equipment belonging to our customers to an electrical source that does not meet OSHA approved specifications. There are no exceptions to this policy! SASE Company, Inc. also strongly recommends that only certified electricians be permitted to deal with or manipulate electrical power sources within our customers' facilities or on their job-sites.

Finally, we at SASE Company, Inc. cannot stress enough the importance of following general safety practices, the utilization of appropriate safety equipment and the application of common sense when operating equipment supplied, manufactured, distributed, rented or serviced by SASE Company, Inc. both on the job-site and in the field.

(JL 07/2010)

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SECTION I
GENERAL DESCRIPTION
TWISTER

The **TWISTER** is operated by a propane powered engine, driving a tandem hydrostatic pump system, creating a skid-steer power drive.

Surface coverings and coatings are removed by lowering a weighted blade onto the surface and moving forward under a high torque drive system. The surface coating is removed by a flexible sharpened blade conforming to the floor surface, with the weight of the machine holding the blade firmly to the floor. The weight does not allow the blade to lift or ride over well adhered surface coating material, thus lifting off the floor covering material.

After layers of carpet or laminates are removed, the machine can be connected to a hydraulically powered grinder, slicer, or hammer attachment to clean off adhesives, smooth concrete, or remove stubborn coatings or ceramic tile.

SECTION II **SPECIFICATIONS**



Weight	4200 lbs
Removable weight	2000 lbs
Fuel capacity	33 lb liquid propane
Hydraulic fluid capacity	15 gallons
Auxiliary output	12 gallons @ 2250 psi
Travel speed	500 ft per minute
Engine	Hyundai
Maximum engine RPM	3200
Minimum length	53 1/2"
Width	26"

SECTION III

SAFETY AND PRECAUTIONS

Before operating the TWISTER please read the entire operation and safety manual with complete understanding of the safety section. If you have any questions on safety and precautions please call 1-866-636-7763.

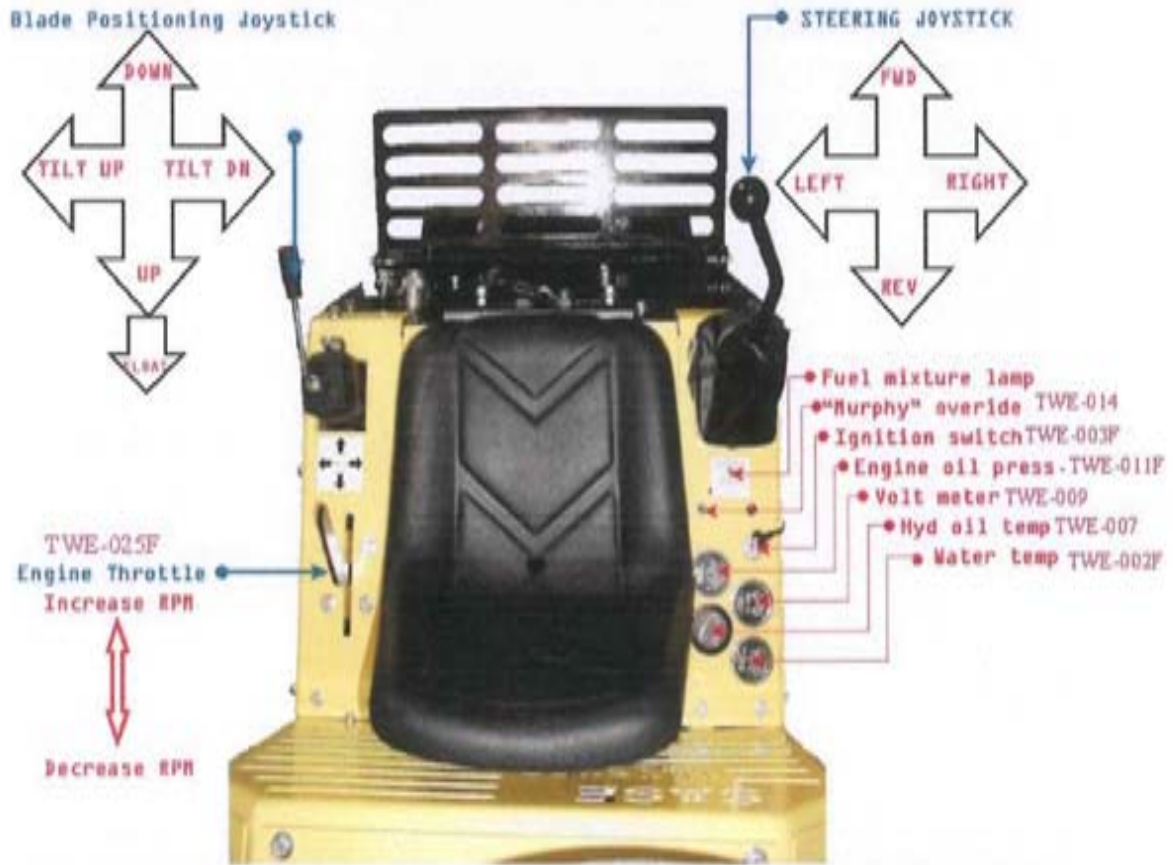
There are several advantages to an effective safety program which include: lower operating costs, lower workman compensations, less work time lost, high employee morale, and less problems. No one can work safely without knowing what precautions to take to insure personal safety. Operators must know what equipment to wear, which job practices are safe and which are not, and must be aware of what hazards are possible in the work area. A regular schedule of Preventive Maintenance on your equipment is the best protection against unpleasant surprises that slow production and sometimes result in injuries. Here are a few suggested safety tips.

1. The first step before any maintenance or inspection takes place should be to stop the engine and disconnect the battery terminals.
2. Wear proper eye and ear protection and heavy duty work gloves at all times.
3. Practice good Preventive Maintenance.
4. Practice good housekeeping.
5. Allow the TWISTER to come to a complete stop, turn off engine, and chock rear wheels before performing any maintenance procedures.
6. Replace worn parts when necessary.
7. Do not reach into blade or control arm areas while machine is in operation.
8. Do not attempt to open any access door until the machine has come to a complete stop and the engine and propane is turned off.
9. Be sure all electrical inspections or changes are done by a qualified electrician.
10. Loose surface coating can cause dangerous footing. Always be alert and careful.
11. After replacing parts be sure all tools used are removed from the machine. Be sure all bolts and nuts are tightened. The loose connection of a rotating part could cause the part to fly off with explosive force, causing serious damage to the equipment and possible injury to the operator.
12. Always lower blade to the ground when the machine is unoccupied by the operator. Serious bodily injury may result if arms are not in the lowered position when not occupied.
13. Never allow unauthorized personnel or the general public into the work area.
14. The work area should be barricaded off to adequately keep all untrained persons out of the work site. If an unauthorized person enters the work area, stop the machine immediately and do not restart the machinery until they have left the work area.

15. Always allow a 200 foot buffer safety zone around all surface preparation activity.
16. Always run the TWISTER in a well ventilated area, with an approved OSHA air monitoring system in place at all times.
17. Read and obey all safety labels placed on the machinery at all times. If safety labels have been destroyed or removed call 1-866-636-7763 for free replacement prior to operating the machinery.
18. The TWISTER is **not a toy**. All operators must be over 18 years of age and must have read and reviewed the safety and procedures manual before operating the machinery.
19. The TWISTER is designed for surface preparation *ONLY*. It is not intended for towing, pushing or any other procedure not described in this manual.
20. Propane systems should be checked and documented twice yearly by a certified propane professional for leaks or damaged parts. If a propane leak is detected, turn off propane tank valve and leave the machine immediately and seek assistance from propane professional. Do not use or restart machinery until it is determined safe.
21. Horseplay and or high speed cornering is not allowed with this machine and could cause rollover resulting in injury or death.
22. No smoking or open flame is allowed while machinery is running or within 50 feet of the machine.
23. Operator must be sober and not under the influence of drugs or medication and under full control of all bodily senses while operating this or any machinery.
24. When transporting the TWISTER, it is recommended to use a low bed tilt trailer. This procedure insures the wheels do not leave a stable surface.
25. All TWISTER operators must receive safety training before performing any functions with the machine. OEM Products offers a free 8- hour safety, maintenance and orientation seminar at its facility in Oklahoma City, OK.
New owners and operators are advised to call 1-866-636-7763 for an appointment.

SECTION IV

TWISTER-Ford INSTRUMENTS AND CONTROLS TOP VIEW OF CONTROL AREA



TWISTER -Nissan
INSTRUMENTS AND CONTROLS
TOP VIEW OF CONTROL AREA



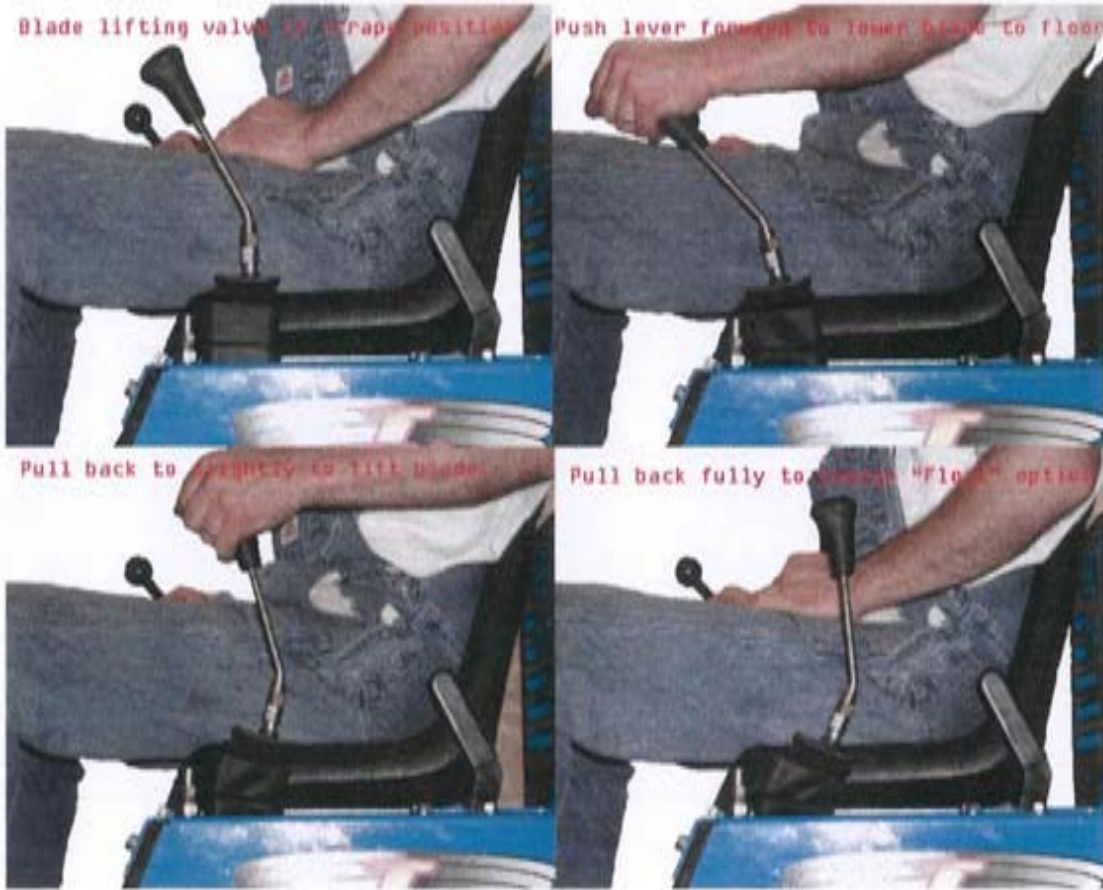
TWISTER -Hyundai

INSTRUMENTS AND CONTROLS

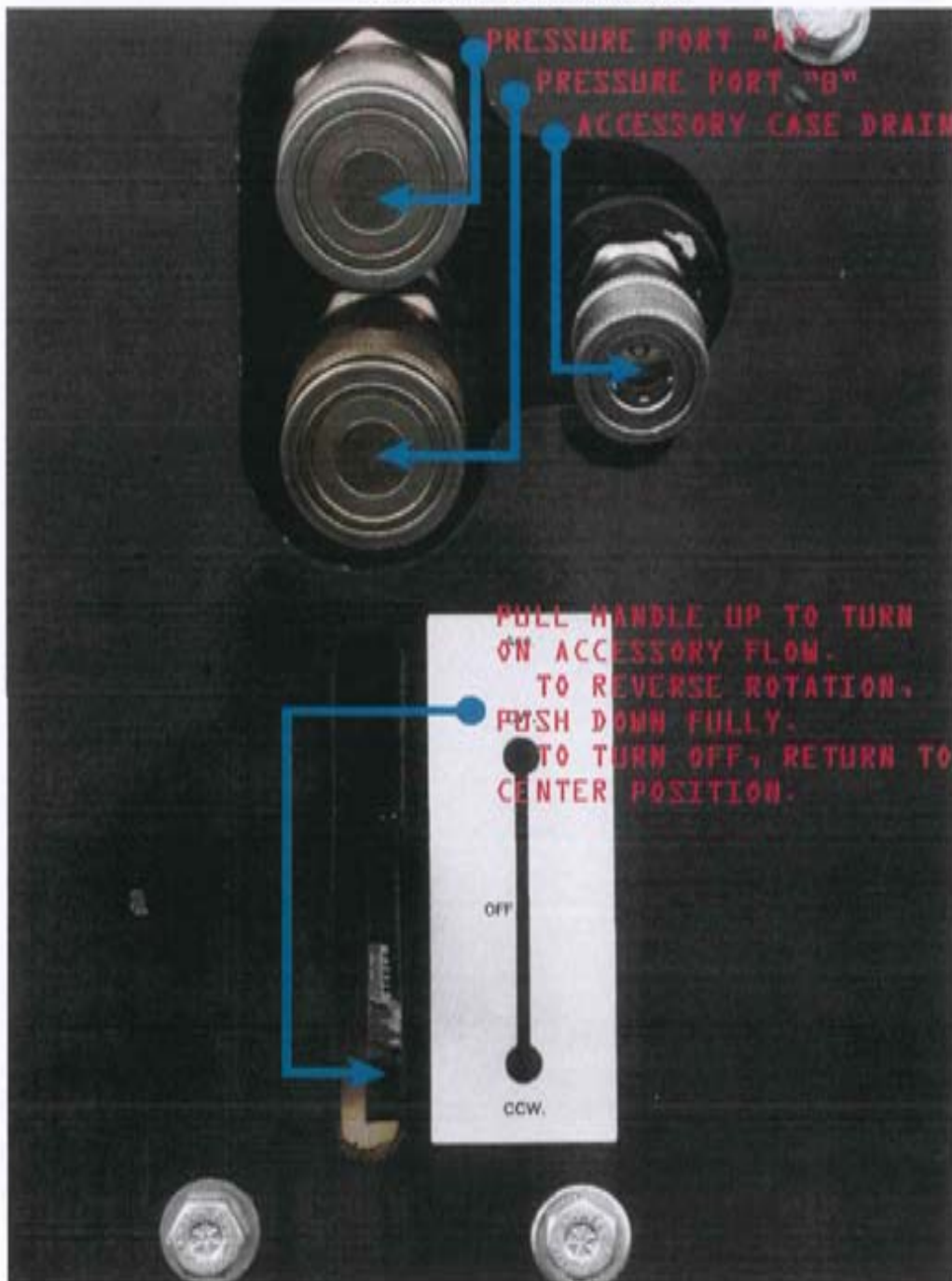
TOP VIEW OF CONTROL AREA



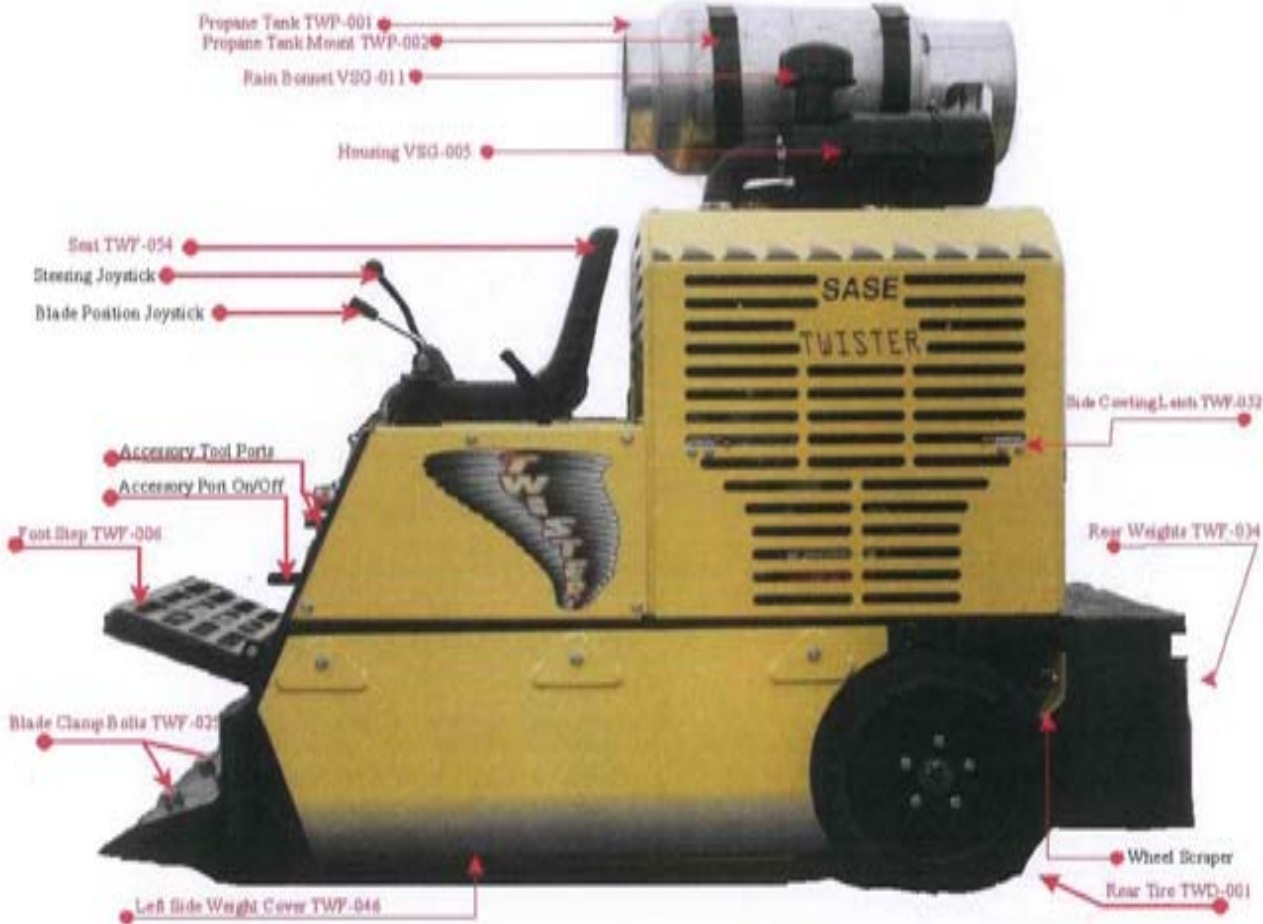
BLADE CONTROL VALVE OPERATING POSITIONS



ACCESSORY VALVE OPTIONS AND CONTROLS



LEFT SIDE DETAIL



SECTION V

START-UP AND BREAK-IN

The **TWISTER** has been safety tested and run at our factory prior to shipping. All fluid levels have been topped off; however, no propane has been added to the tanks for safety shipment purposes. Before running the **TWISTER** please check the following items that may have shifted or changed during shipping.

1. Raise engine covers and check oil level.
2. Check air cleaner filter element for snug fit.
3. All battery cable connections are snug.
4. Inspect for major hydraulic oil leaks. Snug hydraulic fittings using two wrenches. Use caution not to over tighten.
5. Fill propane tank.
6. Mount propane bottle in brackets, be sure bracket alignment pin corresponds with alignment slot on bottle.
7. Attach propane hose to liquid side of bottle by attaching to the handle valve. Snug fit the female connector attached to hose and slowly turn valve on. You should hear gas briefly enter the propane hose. Immediately check for propane leaks with soapy water solution. If leak persists after retightening the knurled female connector: **STOP**, turn off the bottle at valve and seek assistance from certified propane professional. Serious damage and or an explosion could occur.
8. Check lug bolts for tightness, torque 85-100 lbs.
9. Return all engine guards to proper position.
10. You are now ready to start the engine.
11. Once the engine is warming and running, and the operator is safely in the seat, the machine can be driven.

NEW MACHINE BREAK-IN

Since the **TWISTER** is a very low maintenance and user friendly machine, the only break-in is for the **HYUNDAI** engine. Change break-in oil at 50 hrs as recommended by the engine manufacturer.

SECTION VI

MACHINERY OPERATION

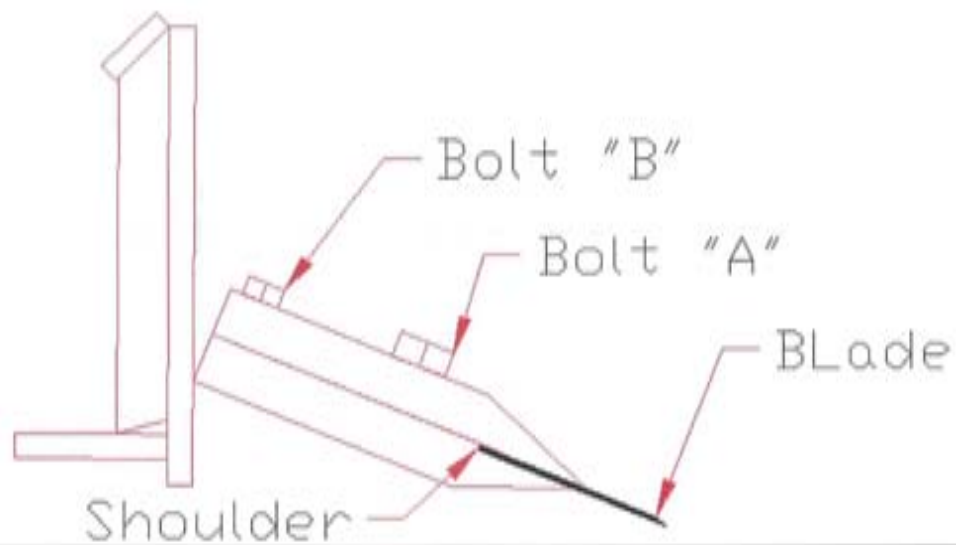
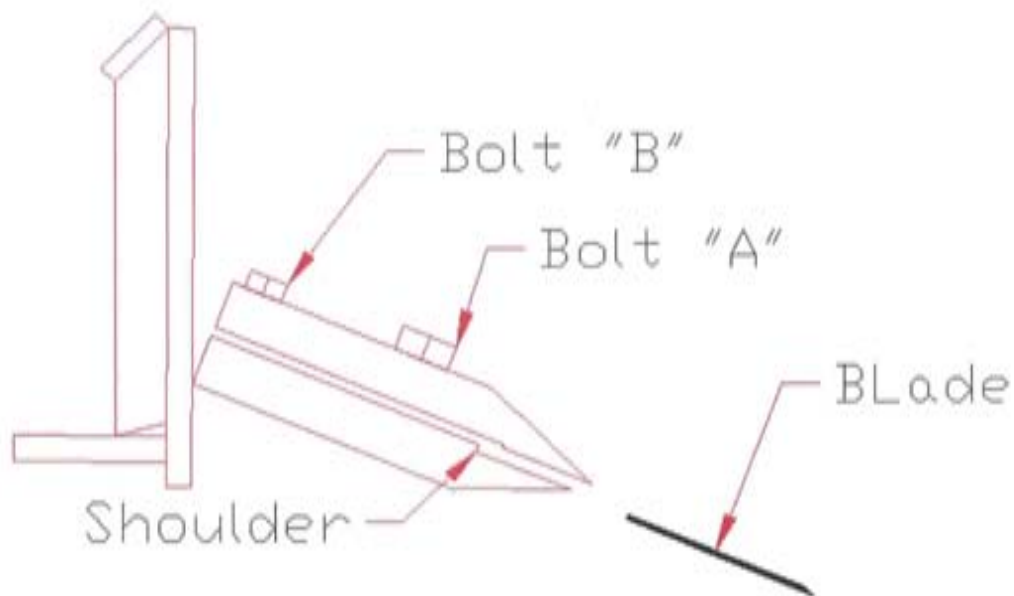
Before reading the machinery operation section, new operators should familiarize themselves with the diagrams depicting the TOP, LEFT, and RIGHT views of machine. These drawings show the activation of all moving parts of the TWISTER.

Even though the TWISTER surface prep machine is very easy to drive and operate, it is recommended that all operators familiarize themselves with this equipment before attempting to use machine in a jobsite or removal situation. This machine has certain steering characteristics that should be noted and practiced prior to operating in a confined space or restrictive environment.

1. **TO MOVE THE MACHINE:** Using the right hand, slowly move the shifter lever in the desired direction of travel. Forward and left moves the machine to the left, backward and right reverses the machine to the right. It is just that simple to drive. Speed is controlled by amount of movement on the joy stick and or engine RPM. The higher the RPM'S the faster the machine will travel.
2. **TO ENGAGE BLADE TO SURFACE:** Move left joystick lever forward to lower blade bar assembly down. Move lever back to raise blade bar assembly off floor. Left and right movement adjusts the blade pitch.
3. Throttle control is on the left side of the seat, taking the unit from idle to 3200 RPM. The most optimum speed is 2600 to 3000 RPM. To change RPM of engine move throttle lever forward to increase engine RPM and backward to decrease engine RPM.
4. To change scraping blades: Lift blade to full UP position. Place a block under blade bar assembly for safety purposes. Stop engine. Loosen the set bolt at the rear of the Blade holder block using a 3/4" open-end wrench. Slide the dull blade out and Insert a new blade up against the shoulder stop. Retighten the set bolt and resume scraping. The large 1 1/8" blade holder bolt should not need to be more that hand tight. With a little practice you should be able to change blades in 15 seconds. Dull blades can be resharpened and reused many times.
SEE DRAWING OF BLADE CHANGE PROCEDURE
5. Operators should lower the blade by pressing the left hand lever forward each time they get off the machine. This safety practice eliminates possible bodily injury from lowering the blade by unauthorized operators.
6. The transport caster should not be in contact with the floor while scraping. It will lift off the floor when blade is lowered. Caster contact with the floor while scraping will negatively affect scraper productivity and steering.
7. Do not transport machine with front of machine off the surface of floor higher than 1/2".
See illustration of correct scraping procedures.

BLADE CHANGE PROCEDURE

Loosen bolt "A" enough to insert blade into JAWS. Make certain it is up against the SHOULDER. Hand tighten Bolt "A". Wrench tighten Bolt "B" to ensure blade is secure.



SECTION VII

MAINTENANCE SCHEDULES

DAILY MAINTENANCE:

1. CHECK ENGINE OIL FILL WITH 10W-40
2. CHECK ENGINE COOLANT
3. CHECK HYDRAULIC OIL LEVEL
4. INSPECT ENGINE RADIATOR COOLING FINS FOR OBSTRUCTIONS (DUST, DIRT, GREASE)
5. INSPECT HYDRAULIC OIL COOLER FOR OBSTRUCTIONS (DUST ,DIRT, GREASE)
6. TORQUE WHEEL LUG BOLTS TO 125 FT LBS
7. INSPECT ALL HYDRAULIC COMPONENTS AND HOSES FOR LEAKS AND CORRECT LEAKS IMMEDIATELY
8. INSPECT PROPANE COMPONENTS, HOSES, AND FITTINGS FOR LEAKS AND CORRECT ANY PROBLEMS IMMEDIATELY

50 HOUR MAINTENANCE:

1. CHANGE ENGINE OIL AND FILTER
2. CHANGE HYDRAULIC OIL FILTER
3. "TOP OFF" HYDRAULIC OIL TANK
4. TORQUE WHEEL HUB NUTS TO 325 FT LBS
5. GREASE BLADE ARM PIVOTS AT BASE OF BLADE ARMS (near tires)
6. GREASE FRONT CASTER WHEEL AND INSPECT FOR DAMAGE TO TREAD
7. USE COMPRESSED AIR OR WATER PRESSURE TO REMOVE DIRT AND DUST FROM ENGINE COOLING RADIATOR AND HYDRAULIC OIL HEAT EXCHANGER
8. CHECK AND TIGHTEN ALL HYDRAULIC FITTINGS
9. INSPECT HYDRAULIC HOSES FOR DAMAGE
10. CHECK ENGINE COOLANT LEVEL AND TEST COOLANT VALIDITY
11. INSPECT ENGINE COOLING FAN BELT
12. USE COMPRESSED AIR TO CLEAN DEBRIS FROM ALTERNATOR
13. INSPECT AND TIGHTEN ALL JOYSTICK STEERING LINKAGES

100 HOUR MAINTENANCE: (in addition to 50 hr maintenance requirements)

1. DRAIN AND REPLACE HYDRAULIC OIL AND FILTER
2. REPLACE ENGINE AIR FILTER
3. INSPECT ALL PROPANE FITTINGS AND HOSES FOR LEAKS USING SOAPY WATER

BE AWARE OF THE EFFECTS OF HARSH ENVIRONMENTS TO THE SCRAPER EQUIPMENT.

- A. The constant and continuous impacts of ceramic tile removal could cause premature loosening of bolts and nuts over entire machine
- B. While operating machine with a hydraulic attachment, monitor oil temperature closely
- C. When operating in dusty "demolition" type work, monitor the engine temperature, as the dust can cause the cooling fins of radiator to become obstructed causing engine overheating. Dust accumulating on engine air cleaner will cause improper fuel mixture, resulting in excessive exhaust emissions. Monitor the warning light on instrument panel for indications.
- D. Use of non-marking (white) tires on ceramic tile, marble, or sharp edged debris will result in extreme tire damage. Black tires are recommended
- E. Carpet removal will generally result in front transport caster being wrapped with stray carpet strings. Remove debris from wheel daily to prevent irreparable damage to wheel tread

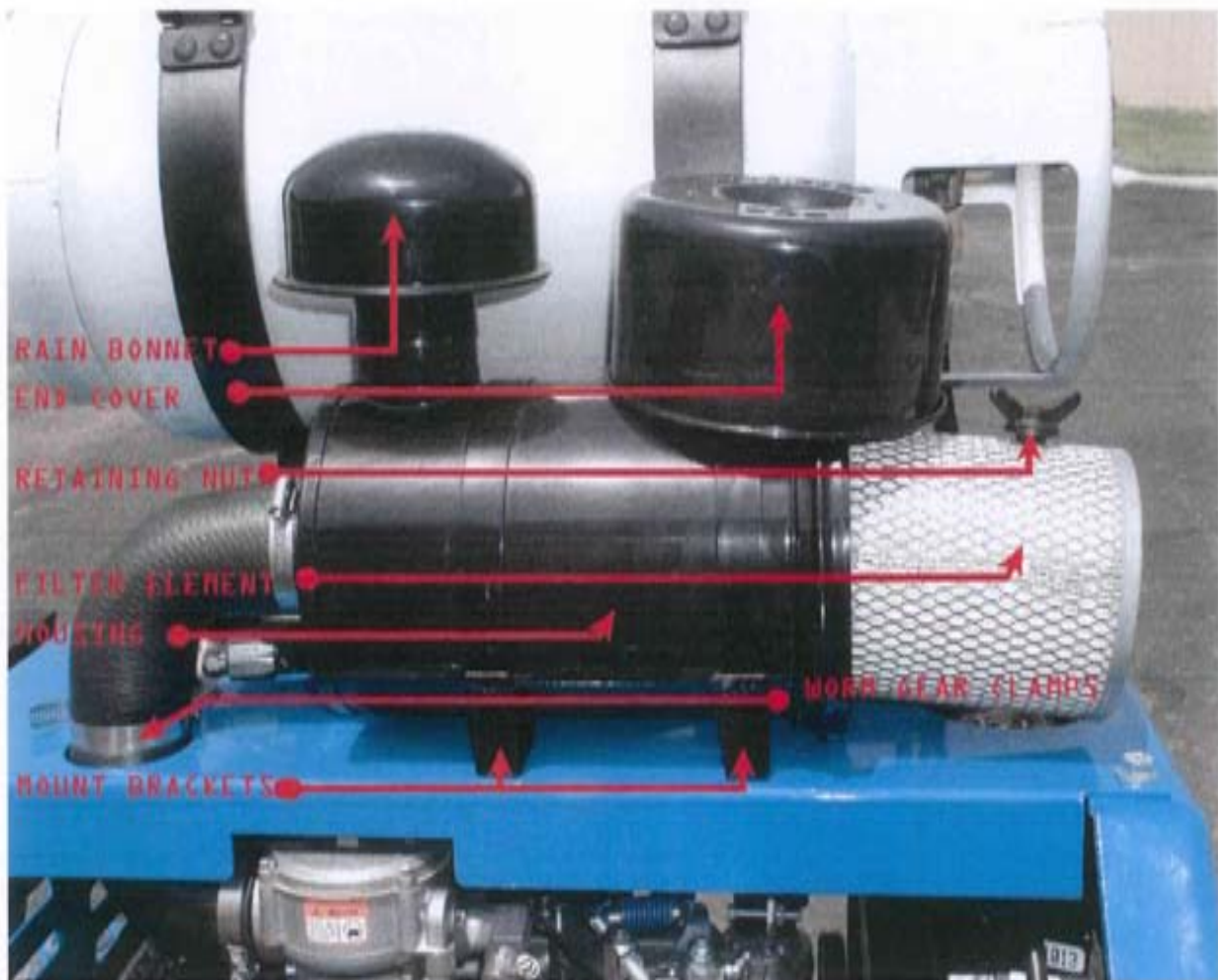
SAFETY

WARNING

CARBON MONOXIDE can cause severe nausea, fainting or death.

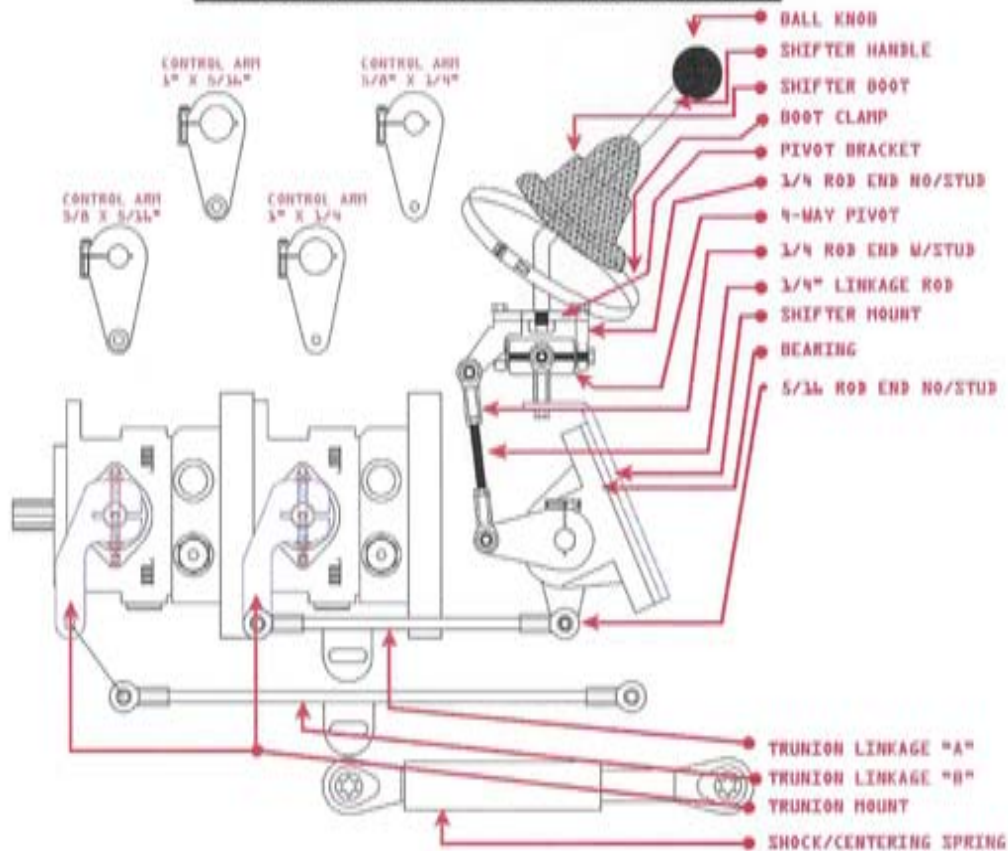
Do not operate engine in closed or confined area without proper ventilation.

TWISTER AIR FILTER ASSEMBLY
Ford, Nissan & Hyundai



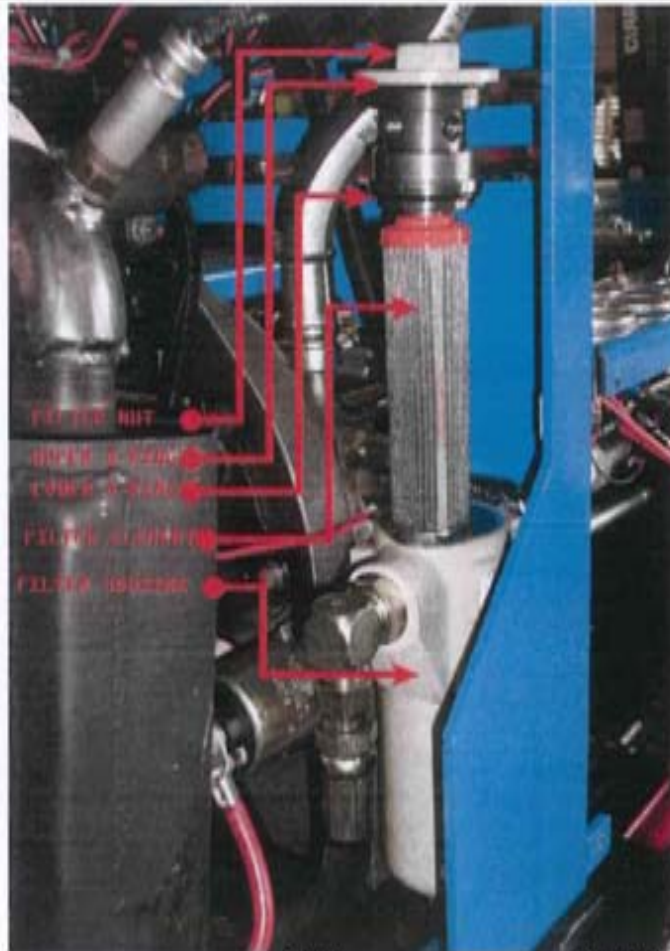
DESCRIPTION	QTY	PART NUMBER
End Cover	1	VSG-003
Retaining Nut	1	VSG-004A
Housing	1	VSG-005A
Mount Bracket	2	VSG-006A
Worm Gear Clamp	2	VSG-007A
Complete Assembly	1	VSG-008A
Oxygen Sensor	1	NIS-009
Air filter Element	1	VSG-010A
Rain Bonnet	1	VSG-011A

TWISTER JOYSTICK ASSEMBLY



DESCRIPTION	QTY	PART NUMBER
Ball knob	1	TSJ-001
Shifter handle	1	TSJ-002
Shifter boot	1	TSJ-003
Boot clamp	1	TSJ-004
Pivot bracket	1	TSJ-005
1/4" rod end no/stud	4	TSJ-006
4-way pivot	1	TSJ-007
1/4" rod end w/stud	4	TSJ-008
1/4" linkage rod	2	TSJ-009
Shifter mount Plate	1	TSJ-010
Bearing Assembly	2	TSJ-011
5/16 rod end no/stud	4	TSJ-012
Trunion linkage "A"	1	TSJ-013
Trunion linkage "B"	1	TSJ-014
Trunion mount	2	TSJ-015
Shock/centering spring	2	TSJ-016
Control arm 1" x 5/16"	1	TSJ-017
Control arm 5/8" x 1/4"	1	TSJ-018
Control arm 5/8" x 5/16"	1	TSJ-019
Control arm 1" x 1/4"	1	TSJ-020
Crossover tube	1	TSJ-021
Crossover shaft	1	TSJ-022
Crossover tube bushing	2	TSJ-023
Complete joystick (less handle, boot, knob, clamp)	1	TSJ-024
Twister Hyd Float Spool	1	TSJ-025

TWISTER HYDRAULIC FILTER ASSEMBLY



<u>DESCRIPTION</u>	<u>QTY</u>	<u>PART NUMBER</u>
Filter Cap Nut	1	TWH-021
Upper O-Ring Seal	1	TWH-022
Lower O-Ring Seal	1	TWH-023
Filter Element	1	TWH-024
Filter Housing	1	TWH-025

TWISTER FRAME AND COWLING PARTS

<u>DESCRIPTION</u>	<u>QTY</u>	<u>PART NUMBER</u>
Front Caster	1	TWF-001
Front caster wheel only	1	TWF-002
Frame	1	TWF-003
Rear Plate	1	TWF-004
Front Plate	1	TWF-005
Foot Step	1	TWF-006
Left Instrument Panel	1	TWF-007
Right Instrument Panel	1	TWF-008
Front Cowling	1	TWF-009
Rear Cowling	1	TWF-010
Top Cowling	1	TWF-011
Propane Tank Brackets	1	TWF-012
Throttle Handle	1	TWF-013
Throttle Handle Bracket	2	TWF-014
Rear Weight Hanger	2	TWF-015
Wheel Scraper	2	TWF-016
Pivot Bar	1	TWF-017
Pivot Bar Retainer Ring	2	TWF-018
Pivot Bar Inner Spacer	2	TWF-019
Pivot Bar Outer Spacer	2	TWF-020
Right Arm	1	TWF-021
Left Arm	1	TWF-022
Crossover Arm	1	TWF-023
Crossover Arm Pin	2	TWF-024
Blade bar Mount Plate	1	TWF-025
Blade Bar 24"	1	TWF-026
Blade Bar Top 24"	1	TWF-027
Blade Bar Top "mount bolts" 3/4-10 x 2 1/4"	2	TWF-028
Blade Bar Top "clampbolts" 1/2-13 x 1 1/2	2	TWF-029
Blade Bar 8"	1	TWF-030
Blade Bar Top 8"	1	TWF-031
Blade Bar Mounting Bolts 1/2-13 x 2	2	TWF-032
Blade Bar Pivot Pins	2	TWF-033
Rear Weights	7	TWF-034
Side Rear Weights	14	TWF-035
Side Front Weights	14	TWF-036
Engine Mount Plate	1	TWF-037
Side Cowling	2	TWF-038
Blade Positioning Valve Mount	1	TWF-039
Accessory Valve Mount	1	TWF-040
Hydraulic Tank Assembly	1	TWF-041
Seat Mount Plate	1	TWF-042
Seat Plate Hinge	1	TWF-043
Battery Tie Down Bar	1	TWF-044
Right Side Weight Cover	1	TWF-045
Left Side Weight Cover	1	TWF-046
Right side Panel	1	TWF-047
Left Side Panel	1	TWF-048
Accessory Control Handle	1	TWF-049
Wheel Lug Bolts	10	TWF-050
Wheel Castle Nut	2	TWF-051
Side Cowling Latch	4	TWF-052
Tie Down D-Ring	2	TWF-053
Seat	1	TWF-054
Rear Tires	2	TWD-001

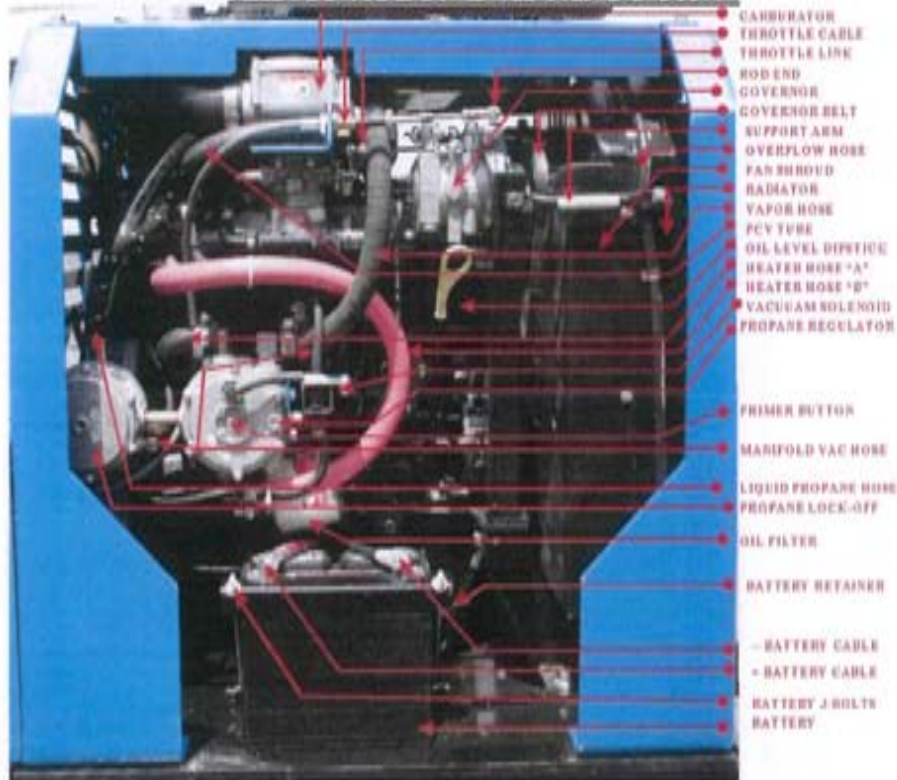
TWISTER HYDRAULIC COMPONENTS

DESCRIPTION	QTY	PART NUMBER	
Hydrostat Assembly	1	TWH-001	
Section 1 of hydrostat assembly (nearest engine)	1	TWH-001A	
Section 2 of hydrostat assembly	1	TWH-001B	
Section 3 of hydrostat assembly (double gear pump)	1	TWH-001C	
Exchange Valves	2	TWH-002	
Accessory Valve	1	TWH-003	
Hydraulic Filter Assembly	See Detailed List		
Wheel Motor	2	TWH-005	
Wheel Motor Hub	2	TWH-006	
Hydraulic Oil Heat Exchanger	1	TWH-007	
Joystick Valve	1	TWH-008	
Cylinder Clevis for tilt or lift cylinder	1	TWH-009	
Twister Hydrostatic Assembly –Core Charge		TWH-010	
Cylinder Tilt Pin	1	TWH-011	
Hydraulic Heat Exchanger (fan)A-20	1	TWH-015	
Twister Lift and Tilt Cylinder	3	TWH-016	
Hydraulic Oil Heat Exchanger (thermostat)	1	TWH-017	
Twister Oil Cooler Fan (A20)	1	TWH-018	
Twister Tranny Cable (Ford Engine)	1	TWH-019	
Filter Cap Nut	1	TWH-021	
Upper O-Ring Seal	1	TWH-022	
Lower O-Ring Seal	1	TWH-023	
Filter Element	1	TWH-024	
Filter Housing	1	TWH-025	
Twister Wheel Motor Hoses (Bondioli PV) left-ft	1	33 ½"	TWH-030
Twister Wheel Motor Hose (Bondioli PV) left rear	1	33 ½"	TWH-031
Twister Wheel Motor Hose (Bondioli PV) rt-ft	1		TWH-032
Twister Wheel Motor Hose (Bondioli PV) RT rear	1		TWH-033
Twister Wheel Motor Hose (Bondioli NT) left-ft	1	37"	TWH-040
Twister Wheel Motor Hose (Bondioli NT) left rear	1	38"	TWH-041
Twister Wheel Motor Hose (Bondioli NT) rt-ft	1	39"	TWH-042
Twister Wheel Motor Hose (Bondioli NT) rt-rear	1	35 ½"	TWH-043
Twister Wheel Motor Hose (Comer) left-ft	1	43"	TWH-050N
Twister Wheel Motor Hose (Comer) left rear	1	32"	TWH-051N
Twister Wheel Motor Hose (Comer)rt-ft	1	39"	TWH-052N
Twister Wheel Motor Hose (Comer) RT rear	1	32"	TWH-053N
Twister Wheel Motor Hose (Comer) left-ft	1	27"	TWH-050H
Twister Wheel Motor Hose (Comer) left rear	1	33"	TWH-051H
Twister Wheel Motor Hose (Comer)rt-ft	1	27"	TWH-052H
Twister Wheel Motor Hose (Comer) RT rear	1	38"	TWH-053H

TWISTER ELECTRICAL COMPONENTS-Ford Engine

DESCRIPTION	QTY	PART NUMBER
IGNITION 10 AMP ATC FUSE (RED)	1	TWE-001
Murphy Temp Gauge	1	TWE-002F
Ignition Switch (Ford engine)	1	TWE-003F
Ignition Ford key	1	TWE-003Fkey
Murphy Switch	1	TWE-004
Ignition Module	1	TWE-005
MAP Sensor	1	TWE-006
Oil Temp Sender	1	TWE-007
Electric 14 AMP SFE FUSE	1	TWE-008
Twister engine temp gauge	1	TWE-010
Twister Oil Pressure Gauge	1	TWE-011
Murphy Oil Pressure Gauge	1	TWE-011F
Murphy Switch Boot	1	TWE-013
Engine Light (red)	1	TWE-014
Ford VSG-413 Alternator	1	TWE-016F
Twister heat oil cooler thermostat	1	TWE-017
Ford starter	1	TWE-018
Coil Pack-Ford Motor VSG-413	1	TWE-021
Plug wires for Coil Pack-Ford	4	TWE-022
Ford O2 Sensor	1	TWE-031F

TWISTER FORD ENGINE DETAIL



DESCRIPTION	QTY	PART NUMBER
Oil Filter	1	VSG-002
Carburetor	1	VSG-003F
Throttle Cable	1	VSG-004
Throttle Link	1	VSG-005
Rod End	2	VSG-006
Governor	1	VSG-007
Governor Belt	1	VSG-008
Support Arm	1	VSG-009
Overflow Hose	1	VSG-010
Fan Shroud	1	VSG-011
Radiator	1	VSG-012
Upper Radiator Hose (not shown)	1	VSG-013
Lower Radiator Hose (not shown)	1	VSG-014
Radiator Hose Clamp (not shown)	4	VSG-015
Vapor Propane Hose	1	VSG-016
Vapor Propane Hose Clamps (not shown)	2	VSG-017
PCV Tube	1	VSG-018
Oil Level Dipstick	1	VSG-019
Heater Hose "A"	1	VSG-020
Heater Hose "B"	1	VSG-021
Vacuum Solenoid	1	VSG-022
Propane Regulator	1	VSG-023
Manifold Vac Hose	1	VSG-024
Liquid Propane Hose "Lower"	1	VSG-025
Liquid Propane Hose "Upper" (not shown)	1	VSG-026
Propane Safety Lock-Off	1	VSG-027
Battery Retainer	1	VSG-028
Negative Battery Cable	1	VSG-029
Positive Battery Cable	1	VSG-030
Battery J-Bolts	2	VSG-031
Battery 12 Volt	1	VSG-032

TWISTER ELECTRICAL COMPONENTS-Nissan Engine

DESCRIPTION	QTY	PART NUMBER
Twister Ignition Fuse	1	TWE-001
Oil Temp Gauge	1	TWE-002
Nissan Ignition Switch	1	TWE-003N
Ignition Key	1	TWE-003Key
Nissan Ignition Module	1	TWE-005N
Oil Temperature Sender	1	TWE-007
Volt Meter	1	TWE-009
Engine Oil Pressure Gauge	1	TWE-011
Hour Meter	1	TWE-012
Check Engine Light	1	TWE-015
Nissan Alternator	1	TWE-016N
Twister Heat Oil Cooler Thermostat	1	TWE-017
Nissan Starter	1	TWE-018N
Injector Kit -Nissan	1	TWE-019
Injector O-ring Kit-Nissan	1	TWE-021N
Nissan Plug Wire Set	1	TWE-022N
Nissan Throttle Switch	1	TWE-025N
Nissan O2 Sensor	1	TWE-031N
Catalytic Converter	1	TWE-032N
Nissan Dist. Cap	1	TWE-033N
Nissan Rotor bug	1	TWE-034N
Nissan Plugs	1	TWE-035N
Gaskets	2	TWE-038N



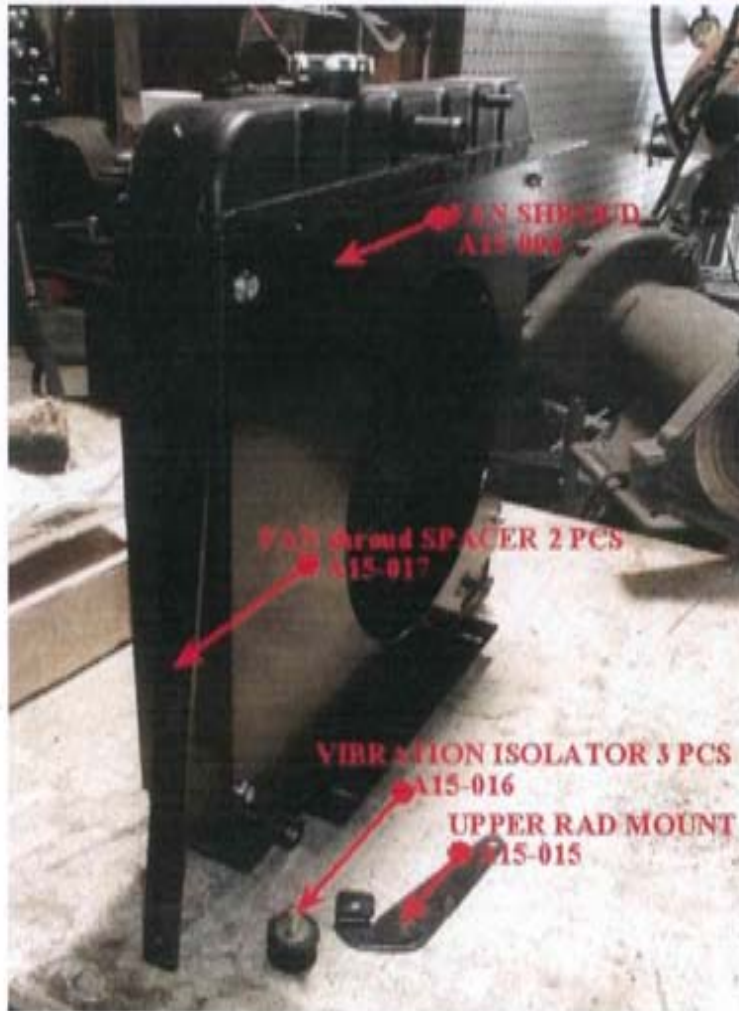
TWISTER ELECTRICAL COMPONENTS-Hyundai Engine

DESCRIPTION	QTY	PART NUMBER
Twister Ignition fuse	1	TWE-001
Oil Temp Gauge	1	TWE-002
Hyundai Ignition Switch	1	TWE-003H
Hyundai Ignition Key	1	TWE-003HKey
Hyundai Ignition Module	1	TWE-005H
Oil Temperature Sender	1	TWE-007
Volt Meter	1	TWE-009
Engine Oil Pressure Gauge	1	TWE-011
Twister Hour Meter	1	TWE-012
Check Engine Light	1	TWE-015
Twister Hyundai Alternator	1	TWE-016H
Twister Heat Oil Cooler Thermostat	1	TWE-017
Hyundai Coil Pack	1	TWE-021H
Hyundai Plug Wires for Coil Pack	1	TWE-022H
Twister Hyundai Coolant Tank	1	TWE-023H
Twister Hyundai Engine	1	TWE-024H
Twister Rotary Switch (Throttle)	1	TWE-025H
Hyundai O2 Sensor	1	TWE-031H
Catalytic Converter	1	TWE-032H
Hyundai Plugs	1	TWE-037H
Gaskets	2	TWE-038H



Twister Nissan Engine Parts

DESCRIPTION	QTY	PART NUMBER
Nissan Engine Oil Filter	1	A15-001
Nissan Engine Radiator	1	A15-002
Nissan Engine Fan	1	A15-003
Nissan Engine Fan Shroud	1	A15-004
Nissan Engine Air Filter Element	1	A15-010
Nissan Engine Thermostat	1	A15-011
Nissan Engine Starter	1	A15-012
Nissan Left Engine Mount	1	A15-013
Nissan Right Engine Mount	1	A15-014
Nissan Fan Shroud Brace	1	A15-015
Nissan Vibration Isolators	5	A15-016
Fan Shroud Spacer	2	A15-017



Twister Nissan Propane Parts

<u>DESCRIPTION</u>	<u>QTY</u>	<u>PART NUMBER</u>
Propane Tank	1	TWP-001
Propane Tank Mount	1	TWP-002
Propane Bulkhead	1	TWP-003
Propane Filter	1	TWP-004
Propane Hose End 1/4-npt		
Propane Hose Assembly	1	TWP-005