

Terrco[®], Inc.

MODEL 3100-3P



OPERATING INSTRUCTIONS

MAINTENANCE INSTRUCTIONS

ILLUSTRATED PARTS LIST

Terrco[®] Inc.

222 1st Avenue NW • Watertown, SD 57201

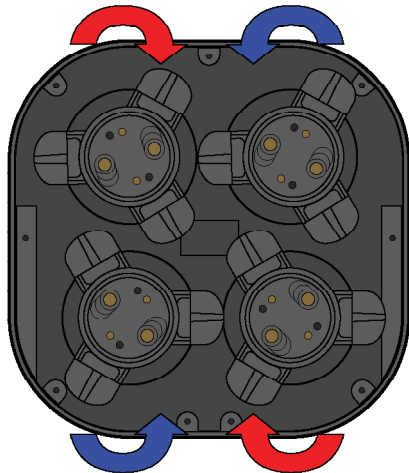
Phone: (605) 882-3888 • Fax: (605) 882-0778

Website: www.terrco.com • Email: info@terrco.com

MODEL 3100-3P

HP/KW	25/18.6
SWEEP OF DISCS	28" (711 mm)
ABRASIVE PRESSURE	1090 lbs (494 kg)
WIDTH OF MACHINE	29-1/2" (749 mm)
LENGTH OF MACHINE	72-1/4" (1835 mm)
HEIGHT OF MACHINE	52" (1321 mm)
NET WEIGHT	1425 lbs (646 kg)
SHIPPING WEIGHT	1625 lbs (737 kg)
WATER TANK	20 gallons (75.7 l)
POWER CORD (4-4)	100 ft (30.5 m)

* WEIGHT MEASURED WITH FOUR POCKET WEIGHTS



Opposite rotating heads mean the operator does NOT fight the machine.

- Despite the weight and size, the 3100-SP can be easily maneuvered by a single person
- Four 42 lbs. Pocket Weights
- Stainless Steel Water Tank
- Stainless Steel Guards
- Wet/Dry Setup
- Direct Drive, **NO** Belts
- Leveling System

PRODUCTION RATES

- Mastic removal rate of 1,250 sq. ft. per hour
- Thin-set removal rates of 1,800 sq. ft. per hour
- Thin-Mil coatings removal rates of 1,000 sq. ft. per hour.
- Concrete polishing rates of 2,750 sq. ft. per hour (depending of grit)
- Rough Terrazzo rate of 1,500 sq. ft. per day

95+ YEARS

ELECTRICAL OPTIONS

VOLTAGE	230	460	230	460
PHASE	3	3	3	3
DRIVE	MANUAL	MANUAL	VARIABLE	VARIABLE
AMP DRAW	60	30	60	30
BREAKER (AMPS)	80-100	50	80-100	50
STONE HOLDER RPM	510	510	385-600	385-600

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SAFETY PRECAUTIONS

This machine is intended for commercial use.

It is designed exclusively to grind and polish Terrazzo and concrete floors.

Use only recommended accessories and abrasives.

When the machine is in need of repair, use only Terrco approved parts.

All operators must read, understand and practice the following safety precautions.



WARNING: Rotating grinding wheels can cause injury, keep hands and loose clothing clear.



WARNING: Disconnect power at the machine before servicing or changing grinding stones.



WARNING: Always check ground (earth) connection prior to operating machine.

FOR SAFETY:

- Have electrician hook up power to machine.
- Always operate machine with ground fault protection.
- Eye, hearing and respiratory protection advised.
- Service and adjust guards for maximum protection. Never remove the guards.
- Keep machine clean and properly serviced.

SAFETY LABEL

The safety label is located on the drive box of the machine.
Replace label if it is damaged or illegible.

 WARNING FOR SAFETY, READ OWNERS MANUAL BEFORE USING MACHINE 	
	ROTATING CUTTERS KEEP GUARDS IN PLACE AND ADJUSTED KEEP HANDS AND FEET AWAY WHEN OPERATING
	WEAR EYE AND HEARING PROTECTION WHILE OPERATING THE MACHINE
	GRINDING CAN GENERATE DUST DUST MAY AFFECT BREATHING AVOID DUST CONTACT BY USE OF MASK OR RESPIRATOR
	DISCONNECT POWER BEFORE CHANGING TOOLING OR SERVICING THE MACHINE ALWAYS CHECK GROUND (EARTH) PRIOR TO OPERATING MACHINE



MODEL 3100-3P

OPERATING AND MAINTENANCE INSTRUCTIONS



INTRODUCTION

This Manual has been prepared to assist you in the proper maintenance and operation of your Terrco® Machine. Please bear in mind that your Terrco® 3100-3P is a precise piece of machinery manufactured to exacting standards. In order for you to obtain maximum use of your Terrco® 3100-3P, we suggest that you read this manual completely and thoroughly before attempting to operate your machine. A parts diagram and parts list are included to assist you in ordering the proper parts. Always give the machine number and model number when ordering your repair parts.

PRELIMINARY PROCEDURES TO FOLLOW BEFORE OPERATING MACHINE FOR THE FIRST TIME:

DELIVERY OF MACHINE

1. On delivery the contractor should very carefully examine the shipping crate to see that it has not been mishandled. Before accepting the shipment, uncrate the machine and very carefully examine the machine to ensure that nothing has been damaged. If damage is noted, request an inspection immediately and request a copy of the claim report. When accepting the machine from the delivery carrier, note the damage on the bill of lading before signing.

2. Terrco® **WILL NOT** honor any claims for broken, damaged, or missing parts that may have occurred in shipping, as each machine is checked and inspected before leaving our plant.

The machine has been fully lubricated at the factory before shipping.

ON-THE-JOB INSTRUCTIONS

INSTALLATION INSTRUCTIONS-STONES

1. Move the counterbalancing weights to the upper weight baskets.
2. Tilt the machine back so that the caster wheel rests on the floor.
3. Clean mounting surface both on plug stone and stone holder. On 2" or 3" diameter plug stone, push stone in the hole and give the stone a slight twist to be certain it is securely in place.
4. Grasp machine handle and lower the machine slowly to the floor. Make certain no stones have fallen or loosened while lowering the machine.
5. Return the counterbalancing weights to the lower weight baskets.

TRANSPORTING THE MACHINE

1. With the counterbalancing weights in the upper weight baskets, tilt the machine so that the caster wheel is firmly on the floor. You can push from the gearcase side or use the flop handle to pull.

TO OPERATE THE MACHINE

1. Disconnect the electrical source.
2. Install the stones per instructions in installation section.
3. After stones are installed, lower the machine until it is in operating position.

CAUTION! - Never attempt to start the machine while lowering it to the floor, as rear stones will strike on corners resulting in thrown stones and possible damage to the machine and/or floor surface.

4. Before plugging into the electrical system, check the voltage at the source. The minimum acceptable voltage is (210/420 Volt, 60 HZ, 3 phase), or (380 Volt, 50 HZ, 3 phase). Anything lower than this can result in blown heaters and possible motor burnout.

5. If the machine is to operate in an area more than 200 feet from the source, it will be necessary to use the next larger size cable than the cable that was furnished with the machine.



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6. After you have the cable in place, relieve pressure on the handle and push the start button on the starter switch, then releasing the pressure on the handle to lower the machine back to the floor.
7. We recommend that the first pass over the floor be made with the weights in the upper wight baskets. After the floor is "roughed" out, move the weights to the weight baskets located on the gear case for maximum abrasive pressure.
8. Be sure to periodically check stone wear, to prevent grinding with the steel plugs, rather than the stones.

GENERAL MAINTENANCE AND REPAIR INSTRUCTIONS

THE LUBRICATION OF THE MACHINE

1. The lubrication of the main gear case.
 - The main gear case contains Mobilith AW-1 grease.
 - Gear case level should be checked once a year. The level of the grease in the gear case should be half way up, to just covering the thickness of the driven gears (Ref. number 21 and 49 on the parts list (gear case assembly)). **DO NOT FILL TO THE TOP!** The drive gear must **NOT** be covered, as you will create a pressure build-up that will damage seals and cause grease leakage.
2. The lubrication of the wheel bearings.
 - Use grease gun and give 2 shots of grease once every month on each wheel with Mobilith AW-1 or equivalent.
3. Location of additional grease fittings/zerks.
 - Four fittings on bearing caps on top of gear case (Ref. number 6 on the parts list (gear case assembly)).
 - Lubricate these fittings with 2 shots of grease every month with Mobilith AW-1 or equivalent.

KEEPING MACHINE CLEAN

1. Schedule daily cleaning after each days grinding.
 - Tilt machine back on handle.
 - Clean under carriage with water using a garden hose and nozzle.
 - Clean all grease fittings.
2. Do not let any build-up of cement grinding paste occur as this could create an overload on your machine, as well as more weight to push.
3. Avoid direct spraying of drives/ starter boxes if using a pressure washer to clean the machine.

REPLACEMENTS OF WORN, DAMAGED, OR MISSING PARTS

1. Advantages
 - If worn parts (bearings, gears, etc) are not replaced promptly, serious damage to your machine could occur.
 - Your machine will operate more efficiently with new Terrco® parts.
2. Use only authorized Terrco® parts as our warranty will not apply if other than factory authorized Terrco® parts are used.

MORFLEX FLEXIBLE COUPLINGS

1. Bolts, (Ref. number 29 on the gear case assembly) should be checked weekly for tightness. Loose bolts cause extreme vibrations and premature failure of rubber inserts in the couplings.
2. Your flexible couplings (Ref. number 31 on the gear case assembly) should be changed a minimum of once a year whether you use your machine or not.

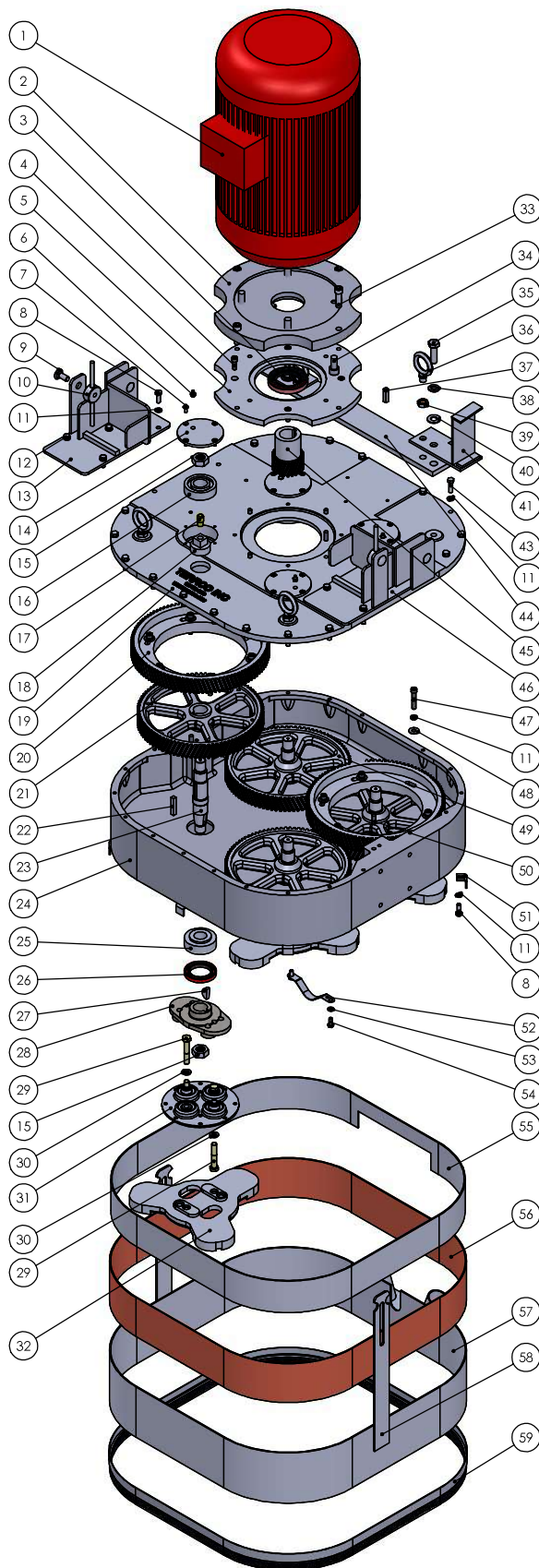
STONE WEAR AND REPLACEMENT

1. Check your stones for wear periodically, as the stones may be worn flush with stone holder plugs and the operator may be grinding with steel stone spiders.

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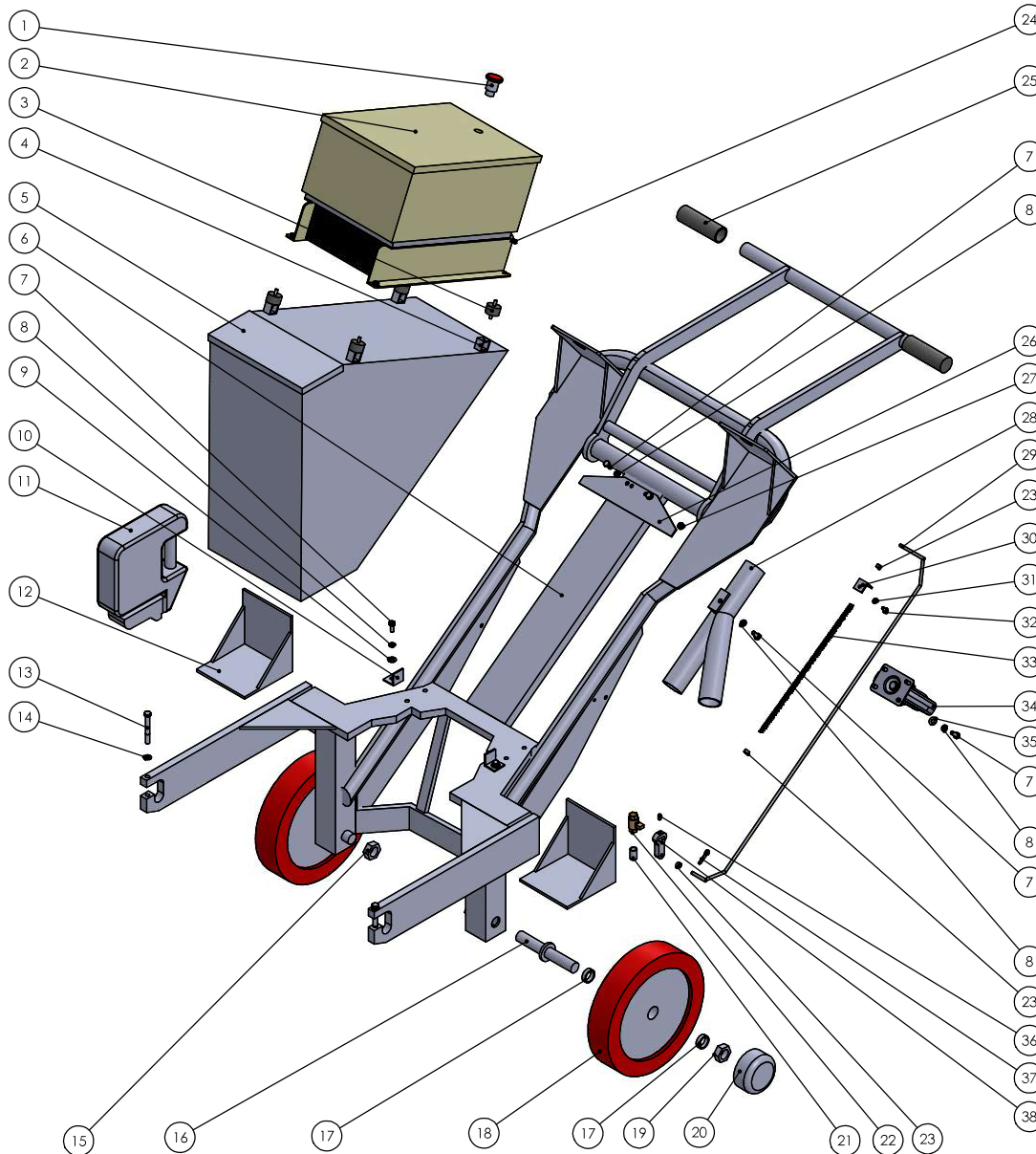
MODEL 3100-3P PARTS LIST (GEAR CASE ASSEMBLY)



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE 146	25 HP, 230/460 V, 3 PH, 60 Hz	1
2	FE 130-3100-MTR	MOTOR MOUNTING PLATE - MOTOR	1
3	FE 249	GREASE SEAL, FOR MOUNTING RING	1
4	T2111	SOCKET HEAD CAPSCREW 3/8-16 X 1" LG	4
5	FE 130-CASE	MOTOR MOUNTING PLATE - CASE	1
6	000170	GREASE FITTING 1/8" NPT STRAIGHT	4
7	T3011	1/4-28 X 5/8 LG SOCKET FLAT HEAD	16
8	T2013	3/8-16 X 1" LG HEX HEAD CAPSCREW	11
9	FE 153	1/2-13 X 1-1/4" LG CARRIAGE BOLT	2
10	FEN 009	SPLASH GRD LOCK NUT ASSEMBLY	2
11	T1022	3/8 MEDIUM LOCKWASHER	46
12	T1097	3/8-16 X 1-3/4 LG HEX HEAD CAPSCREW	6
13	FE 297R	WEIGHT & LIFT BASKET - R	1
14	FE 027	BEARING CAP	4
15	T2008	STOP NUT 1"-14 JAM	8
16	SM 043, SM 037	UPPER BEARING CONE & CUP	4
17	DS 184	BREATHER CAP	1
18	X-100	1.5" NPT PIPE PLUG, SQUARE HEAD, GALVANIZED	1
19	FE 305	GEAR CASE COVER- 3100	1
20	FE 006C	DRIVE GEAR	2
21	FE 004B	DRIVEN GEAR - R	2
22	FE 193	PINION KEY	4
23	SM 016	HELICAL GEAR SHAFT	4
24	FE 304	GEAR CASE- 3100	1
25	SM 036, SM 037	LOWER BEARING CONE & CUP	4
26	SM 169	GEAR SHAFT GREASE SEAL	4
27	T2012	WOODRUFF KEY	4
28	SM 500	DRIVING SPIDER	4
29	SM 171	MORFLEX COUPLING BOLT, ADV. J27B	16
30	T1012	1/2" LOCK WASHER MEDIUM	16
31	SM 088	COUPLING	4
32	SM 491A	SPEED SHIFT PLATE - 3100	4
	SM 192B	PLUG STONE HOLDER - 3100	
	SM 492	UNIVERSAL TOOL PLATE	
33	T3048	1/2-13 X 1-3/4" LG SOCKET HEAD CAPSCREW	4
34	T2165	5/8-11 X 1-1/4 LG SOCKET HEAD CAPSCREW	4
35	Z02-1485	CAPSCREW	2
36	X-16	LIFTING RING	4
37	SM 072	HELICAL GEAR KEY	1
38	T2140	LOCKWASHER	2
39	T3050	5/8-11 HEX JAM NUT	4
40	Z06-1116	WASHER	2
41	FE 298L	TILT STOP BRACKET - L	1
42	FE 298R	TILT STOP BRACKET - R	1
43	T1025	3/8-16 X 1-1/4 LG HEX HEAD CAPSCREW	17
44	FE 310	MOUNT, TILT STOP	1
45	FE 245	PINION, HIGH SPEED	1
	FE 005B	PINION 3100-3P	
46	FE 297L	WEIGHT & LIFT BASKET - L	1
47	T2099	3/8-16 X 2" LG SOCKET HEAD CAPSCREW	12
48	T3028	3/8 USS FLAT WASHER (WROUGHT)	12
49	SM 015L	DRIVEN GEAR - L	2
50	FD 040	DOWEL PIN 3/8 X 1" LG	6
51	SM 028	DRIVING SPIDER GUARD BRACKET	7
52	SM 172	HOSE CLAMP	1
53	T1007	LOCK WASHER	2
54	T2130	5/16-18 X 3/4" LG HEX HEAD CAPSCREW	2
55	FE 021-SS	STAINLESS STEEL GUARD - STATIONARY	1
56	X-E353RB	RUBBER DUST SEAL, ADV. SUPER & 3100	1
57	FE 003	STAINLESS STEEL GUARD - ADJUSTABLE	1
58	FE 029	SPLASH GUARD ADJUSTABLE STRAP	2
59	LW 78(3100)	BRUSH STRIP, 3100	1



MODEL 3100-3P PARTS LIST (HANDLEBAR ASSEMBLY)



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	LW 076	EMERGENCY STOP SWITCH ASSY	1
2	FE 492	YASKAWA 230 VOLT, 69 AMP, 25 HP	1
	FE 493	YASKAWA 460 VOLT, 38 AMP, 25 HP	
3	FE 251	VIBRATION MOUNT	4
4	X-84	MOUNTING CLIP, SWITCHBOX	4
5	FE 031B-SS	STAINLESS STEEL WATER TANK, 3100	1
6	FEN 027	PUSH HANDLE ASSEMBLY, 3100	1
7	T2130	5/16-18 X 3/4" LG HEX HEAD CAPSCREW	9
8	T1007	LOCK WASHER	9
9	T2148	FLAT WASHER	2
10	FE 133-SS	WATER TANK CLIP-STAINLESS STEEL	2
11	FE 246	POCKET WEIGHT, CASTING, 42lbs.	4
12	FE 272	CENTER WEIGHT BASKET	2
13	T3053	3/8-16 X 3" LG HEX HEAD CAPSCREW	2
14	T1022	3/8 MEDIUM LOCKWASHER	2
15	T2007	1"-14 JAM NUT	2
16	FE 020B	SHAFT WHEEL	2
17	T2141	WHEEL BEARING SPACER	4
18	DS 007	WHEEL	2
19	T2008	LOCK NUT	2
20	DS 005	WHEEL CAP	2
21	SM 175	VALVE STEM	1
22	SM 174	WATER TANK VALVE	1
23	SM 186	HANDLE SPACER COLLAR	3
24	T2003	HEX HEAD NUT 1/4-20	4
25	SM 057	HANDLE GRIP	2
26	FE 074	WATER TANK BRACE	1
27	T2025	5/16-18 HEX NUT	2
28	SM 457	2" Y SECTION - DRY	1
29	FE 078A	WATER TANK ROD	1
30	FD 043	WATER GUIDE BRACKET	1
31	T1030	LOCK WASHER	1
32	T2122	1/4-20 X 1/2 LG HEX HEAD CAPSCREW	1
33	SM 182	HANDLE SPRING, COMPRESSION	1
34	HB 088B	CASTER WHEEL/3100	1
35	T3015	1/4" USS WROUGHT WASHER	4
36	T3007	1/4-20 X 1/2 LG SOCKET SET SCREW	1
37	T2082	COTTER PIN, 1/4 X 2 1/2	1
38	SM 170X	LEVER, WATER VALVE, 3100	1



WARRANTY CLAIM PROCEDURE



Each new machine is covered by two separate, distinct warranties: one on the machine and one on the electric motor or gasoline engine. Read **VERY CAREFULLY** the Terrco® warranty covering the machine, as this will tell you whether you have a warranty claim or not. If your machine is under warranty and malfunctions, determine whether your problem is electrical or mechanical, and do the following:

ELECTRICAL

1. Consult the list of authorized motor repair stations sent with the machine and locate the station nearest you.
2. Contact the repair station, giving them the following information:
 - Complete nameplate date from the motor.
 - Tell them that the machine is a terrazzo grinding and polishing machine.
 - Give them a description or rundown of the trouble.
 - Inform them of the voltage and amperage readings as outlined on page 2 of this manual.

MECHANICAL

1. Contact your Terrco® Distributor giving them the following:
 - Model and date purchased.
 - Horsepower.
 - Accurate description of the malfunction.
2. If there is no Terrco® Distributor in your area call or write to us with the above information.



LIMITED ONE YEAR WARRANTY



TERRCO® Inc. warrants the original purchaser of the Terrco® grinding equipment to be free from defects in materials and workmanship under normal use and service. Our obligation under this warranty shall be limited to the repair or exchange of any part or parts which may prove defective under normal use and service within one year from date of purchase by, the original purchaser, and which our examination shall disclose to our satisfaction to be defective.

All equipment returned for repairs or exchange must be returned to: TERRCO®, Inc., at the purchaser's expense and within the warranty period. All repaired or exchanged equipment will be shipped back to the purchaser F.O.B. Watertown, South Dakota.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE AND ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF TERRCO®, INC. AND WE NEITHER ASSUME OR AUTHORIZE ANY OTHER PERSON TO ASSUME FOR US, ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THIS EQUIPMENT. SOME STATES DO NOT ALLOW THE EXCLUSIONS OR LIMITATIONS ON IMPLIED WARRANTIES OR DO NOT ALLOW THE EXCLUSION OF LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSIONS OR LIMITATIONS MAY NOT APPLY TO YOU. THIS WARRANTY SHALL NOT APPLY TO ANY EQUIPMENT OR PART THEREOF WHICH HAS BEEN SUBJECT TO ACCIDENT, NEGLIGENCE, ALTERATIONS, ABUSE, MISUSE, OR IMPROPER MAINTENANCE. TERRCO®, INC. MAKES NO WARRANTIES WHATSOEVER IN RESPECT TO ACCESSORIES OR PARTS NOT MANUFACTURED OR SUPPLIED BY US.