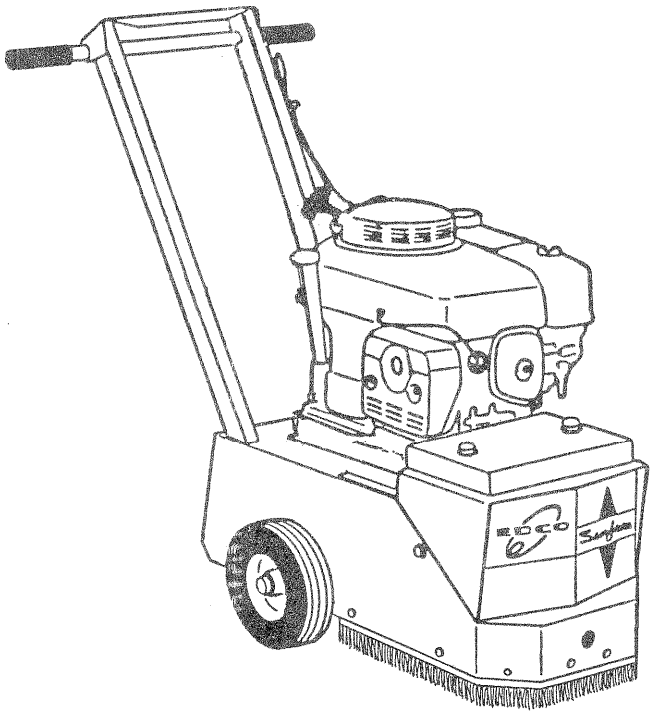
REVISED SEPT. 1, 1992

DYMA GRINDER™

INSTRUCTIONS AND PARTS LIST



Model DY-I

EQUIPMENT DEVELOPMENT COMPANY, INC.
100 THOMAS JOHNSON DRIVE, FREDERICK, MARYLAND 21702-4305 USA
301-663-1600 TOLL FREE 1-800-638-3326 FAX 301-663-1607

PRINTED IN U.S.A.

SAFETY INFORMATION

⚠DANGER

1. DO NOT OPERATE this machine in an enclosed area unless it is well ventilated - Carbon Monoxide is an invisible, odorless gas that if breathed will cause severe injury or death.

2. DO NOT OPERATE unless ALL guards and protective shields are in place securely fastened.

3. Heed and obey all safety decals.

4. Use approved safety equipment - (safety shoes, safety glasses, hearing protection, hard hat, gloves, respirator, etc.).

5. Only trained and qualified personnel should operate machines.

6. DO NOT ALLOW personnel to stand in front of machine during its operation.

7. Keep away from HOT, moving or electrical parts.

⚠WARNING

ONLY licensed electricians or qualified technicians should connect machines to main source - check wiring to be sure equipment is properly grounded.

ALWAYS - disconnect cable from main power source when changing grinding discs or performing mechanical or electrical repairs.

10. DO NOT OPERATE if disc assembly is out of balance - machine may be damaged.

11. ALWAYS disconnect spark plugs when changing grinding discs or performing mechanical repairs.

12. Keep hands - arms - fingers and clothing away from all moving or rotating parts.

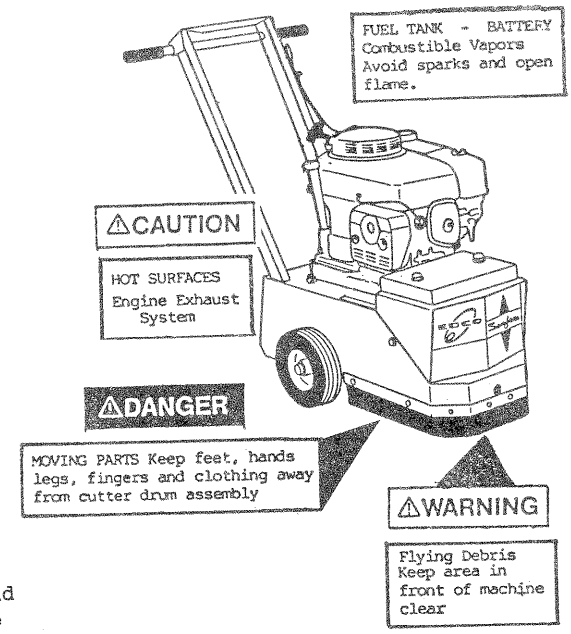
13. ALWAYS use a dust control system when airborne dust is present to prevent respiratory damage.

14. Never leave a machine running without an operator in attendance.

⚠DANGER

15. Combustible vapors can cause severe injury or death.
Let engine cool before refueling.
DO NOT SMOKE when refueling.
Keep spark or open flame away from battery and fuel tanks.

DYMA GRINDER



All personnel must understand the DANGER, WARNING, CAUTION and NOTE used throughout the text of this Instruction Manual, and on the Safety Nameplates located on the machine. The DANGER WARNING, CAUTION and NOTE are defined as follows:

DANGER

DANGER IS USED TO INDICATE THE PRESENCE OF A HAZARD WHICH WILL CAUSE SEVERE PERSONAL INJURY, DEATH, OR SUBSTANTIAL PROPERTY DAMAGE.

WARNING

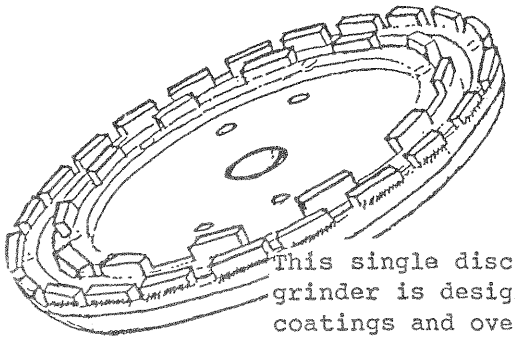
WARNING IS USED TO INDICATE THE PRESENCE OF A HAZARD WHICH CAN CAUSE SEVERE PERSONAL INJURY, DEATH, OR SUBSTANTIAL PROPERTY DAMAGE.

CAUTION

CAUTION IS USED TO INDICATE THE PRESENCE OF A HAZARD WHICH WILL OR CAN CAUSE MINOR PERSONAL INJURY, DEATH, OR SUBSTANTIAL PROPERTY DAMAGE.

NOTE

Note is used to notify people of installation, operation, or maintenance information which is important, but not hazard related.



DYMA GRINDER

This single disc, highly aggressive, high speed surface material remover and grinder is designed to remove excess concrete, epoxy mortar, urethane coatings and overlays, non-skid abrasives from concrete, steel or polymer slabs and floors.

The combination of high RPM of the Lase-A-ring disc, horsepower and the structural design of the frame and coupling make this the most efficient grinder on the market today.

The Lase-A-ring disc is constructed with two removeable and replaceable rings attached to a steel backing plate. The segments on the rings are laser welded permitting the Dyma-Grinder to be used with a flow of water or dry, providing the user with a highly versatile tool.

IMPORTANT

EDCO WILL NOT BE RESPONSIBLE FOR DAMAGE TO THE LASE-A-RING DISCS WHEN THE DAMAGE IS CAUSED BY STRIKING PROTRUDING SLAB INSERTS, NAILS, SCREWS, PIPE EXTENSIONS, ETC., UNEVEN JOINTS, EDGE OF CRACKS, MACHINERY BASES OR OTHER OBJECTS THAT TRANSMIT SUDDEN SHOCKS TO THE GRINDING DISC ASSEMBLY. TO PREVENT CRACKED OR BROKEN LASE-A-RING SEGMENTS, CHECK SLAB SURFACE BEFORE STARTING TO GRIND AND AVOID THESE PROBLEM AREAS.

WET CUTTING

In the wet cutting stage - the water is fed from a standard garden type hose into a ball valve cut off - and on into the center of the grinding disc assembly. Water is not needed as a coolant for the disc - use it to control the dust created during the grinding operation. Excess water flow will only create clean up problems.

DRY CUTTING

Grinding dry creates a large volume of air borne dust. The operator should always wear an applicable respirator designed to protect him from inhaling the air-borne material. It is important to know whether the material being removed is toxic or hazardous. Some slab sealers and coatings contain substances listed on the EPA hazardous substance list and care should be taken to control emissions.

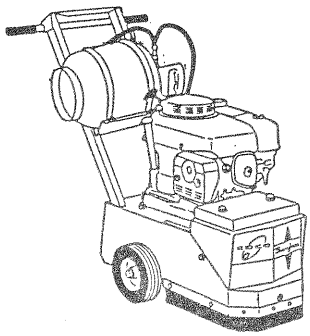
Your Dyma Grinder is equipped with a vacuum hose attachment (3 inch diameter). Be sure that you have a high volume vacuum unit that is capable of absorbing the dust. Most standard, drum type units use paper bag type filters. "Shop Vac" styles are not capable of extended operation. The dust created during the grinding operation is extremely fine and will clog the filter bag and eventually cause the motor of the vac to burn out.

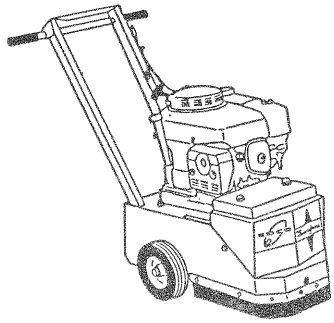
We recommend the use of a self-purging vac - the EDCO VAC 150 or the type used with blasting equipment.

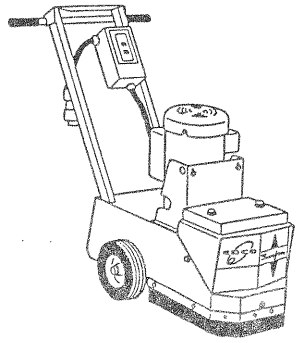
CAUTION

If the material to be removed is hazardous - the vacuum unit should be capable of removing particles to 3 microns and if necessary, have the capability to be equipped with a HEPA filter.

The collected debris and filters should be disposed of according to procedures that comply with current OSHA standards.



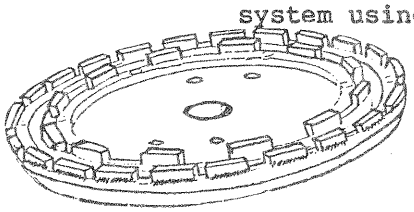




POWER OPTIONS

The Dyma Grinder may be fitted with electric, gasoline or propane power. Both gasoline and propane powered units should never be operated in areas that are enclosed or are not properly ventilated. Internal combustion engines produce carbon monoxide - a deadly odorless and invisible gas that can cause death or serious injury.

Electric powered units must be connected to a properly grounded electrical system using only approved electrical cable.



GRINDING DISCS

Grinding discs are available in two diameters - 10 inch (255 mm) and 12 inch (350 mm). Each disc consist of two rings of laser welded segments. The rings are attached to a heavy steel backing plate with socket head screws. The rings may be replaced when worn. If the backing plate becomes worn or damaged or unbalanced, it also should be replaced.

The discs are balanced at the factory. It is important that the coupling to which the disc is attached be maintained in good condition. A worn coupling, damaged bearings or bent shaft will cause the grinding discs to wear unevenly. The operator should check the disc periodically to determine it's wearing characteristics, - if signs of uneven wear appear the cause should be determined and corrected.

The 10 inch (255 mm) disc will grind to within 1 inch (25 mm) of the wall. The 12 inch (350 mm) disc will reach to within 1/2 inch (12 mm) of the wall.

GRINDING OPERATION

Since the Lase-A-ring discs are extremely aggressive we caution the user - DO NOT let the grinder stand in one spot, even for a few seconds. The surface will be damaged - keep the grinder moving from side to side at all times. When grinding is completed tilt the grinder back and then stop it.

The Dyma Grinder is not designed to produce a smooth, polished finish, it will always leave faint "rings" in the surface. While this is not objectionable for bridge work or other removal work, it will definitely show thru a painted surface or under thin vinyl tile. Use the Dyma Grinder for high joints, slab curling, bridge, road surfaces, extra hard surface concrete 7000 p.s.i. or greater.

The gasoline or propane units are equipped with a centrigal clutch for ease in starting. We recommended electric start engines for propane powered units. 10 inch (255 mm) require at least 11 horsepower engines - 12 inch (350 mm) should be mounted on grinder with at least 13 H.P.

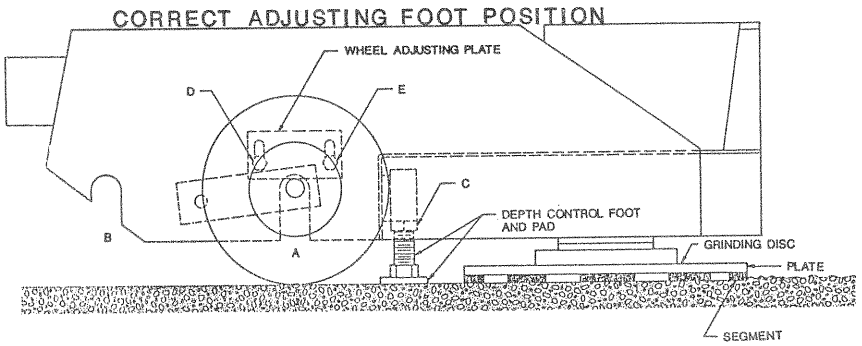
Electric powered units require at least 3 H.P. preferably 5 H.P. at 3 phase.

CONTROL GRINDING DEPTH

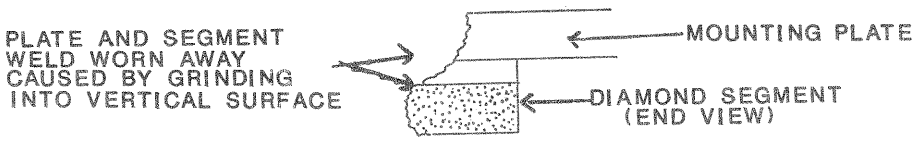
It is important that the grinding disc is set flat against the slab surface for maximum efficiency. Your new Dyma Grinder was pre-set at the factory - as the disc wears the depth control must be adjusted to compensate for this wear. Since segment wear is a slow process it isn't necessary to constantly make adjustments.

The factory setting is: Face of the segments are set level with the adjusting foot. SEE DIAGRAM You can change the depth by increasing or decreasing the length of the adjusting foot.
The grinding job will go faster if you do not attempt to grind too deeply. It's better to make several passes than to attempt to remove the entire imperfection at one time.

DIAGRAM #1



The Dyma Grinder is designed to grind horizontal slab surfaces - do not attempt to grind against vertical surfaces with pressure. The Lase-A-rings are welded to the retaining rings at the extreme outside edges, excessive wear on the weld will cause the segments to drop off. Laser welded segments usually cannot be repaired, a new ring will have to be purchased.



The Dyma Grinder is a powerful tool and generally is used to remove excess and damaged concrete surfaces quickly and at a controlled rate. Most operators depend upon their ability to control grinding depth by moving the grinder across the surface at a pace that is consistant with roughness and the amount of material to be removed. For example: a light coating is usually removed by moving the grinder quickly from side to side. A heavy irregularity is removed by letting the grinder move more slowly from side to side. A "feel" is developed by the operator within a short time after beginning the grinding operation and will enable him to know when to stop or to continue grinding.

DIAGRAM #2

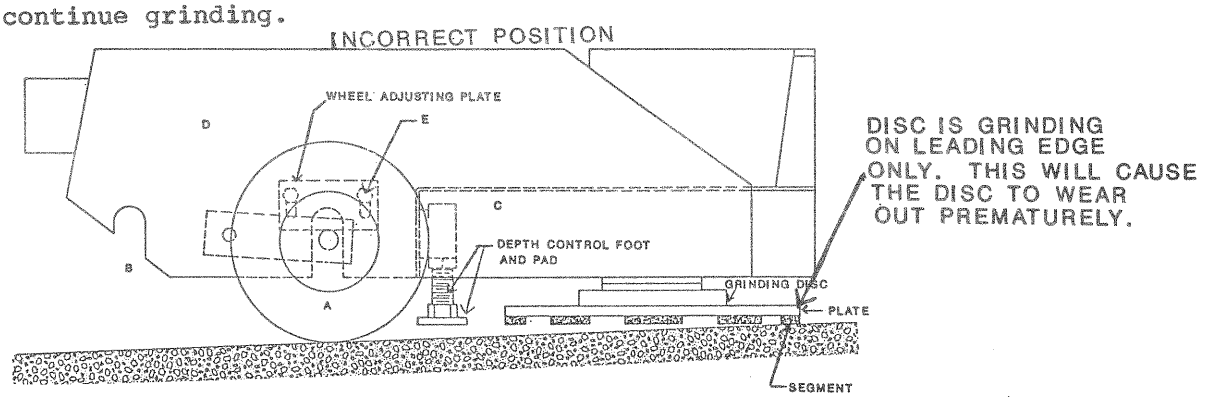


Diagram #2 - indicates that the front edge of the disc is striking the surface first. This will cause the grinder to groove, leaving ridges and will cause premature wear of the outside segments.

WHEEL POSITION

The wheels are mounted on a "swing" carriage system. Position (A) is for transport and in almost all instances, this position is used for all grinding operations. DIAGRAM (#1.)

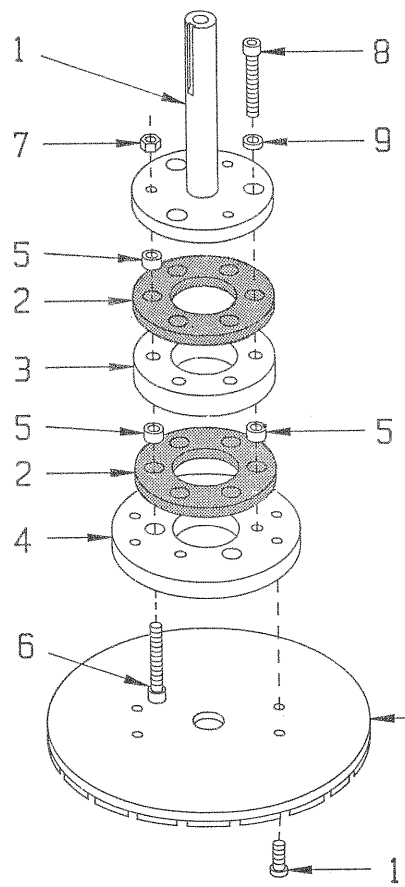
The design of the Dyma Grinder is such that there is more than enough weight over the grinding head for general purpose grinding. Extra weight can be added if needed.

If the wheels are placed in position (B), all of the weight of the grinder is shifted to the grinding disc. This is the most aggressive position, we DO NOT recommend the use of position (B) except in the most extreme cases. You must keep the grinder moving while grinding and in position (B) it is extremely hard to do.

DISC ASSEMBLY

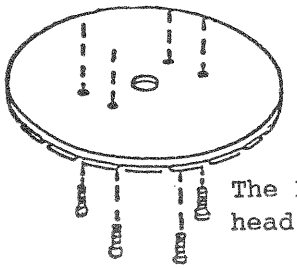
The disc assembly (see diagram) consists of welded and machined shaft and mounting plates held in place on the frame by two heavy duty, self-aligning bearings. REFER TO PARTS LIST DRAWING

DYMA II GRINDER
DIAMOND HEAD ASSEMBLY



Item #	Part #	Description	Qty.
1-9.	86105	DIAMOND HEAD ASSEMBLY (Includes Items 1 thru 9)	
1.	86101	Hub and Shaft Assembly	1
2.	86102	Rubber Ring 3/8"Thk.	2
3.	86103	Spacer 4-1/2"OD x 13/16"Thk.	1
4.	86104	Mounting Disc 6"Dia.	1
5.	86109	Spacer, Steel 7/16"ID x 3/8"W	9
6.	86110	Screw, Skt. Hd. 7/16-20 x 2-1/2	3
7.	10002	Nut, Lock 7/16-20	3
8.	86111	Screw, Skt. Hd. 7/16-20 x 2	3
9.	86112	Spacer, Steel 7/16"ID x 7/32"W	3
10.		Diamond Disc (Not Included)	
	19210	10" Dry-Cut W/ Replaceable Rings	
	19220	12" Dry-Cut W/ Replaceable Rings	
	19150	10" Wet-Cut, 10 Segments	
	19160	10" Wet-Cut, 20 Segments	
	19170	12" Wet-Cut, 20 Segments	
11.	86107	Screw, Low Head 3/8-24 x 1 for Dry-Cut Diamond Disc	4
or	86108	Screw, Flat Head 3/8-24 x 3/4 for Wet-Cut Diamond Disc	4

LASE-A-RING DISC (#10) IS ATTACHED TO HUB ASSEMBLY BY FOUR (4) MOUNTING BOLTS (#11) THREADED INTO MOUNTING DISC (#4)



The Lase-A-ring disc is attached to the disc assembly by four 3/8-24 socket head screws.

IT IS IMPORTANT that the operator check these mounting screws at least once every eight hours of operation. The constant vibration and heat generated, especially when grinding dry, could cause the screws to loosen and the disc to lose it's position.

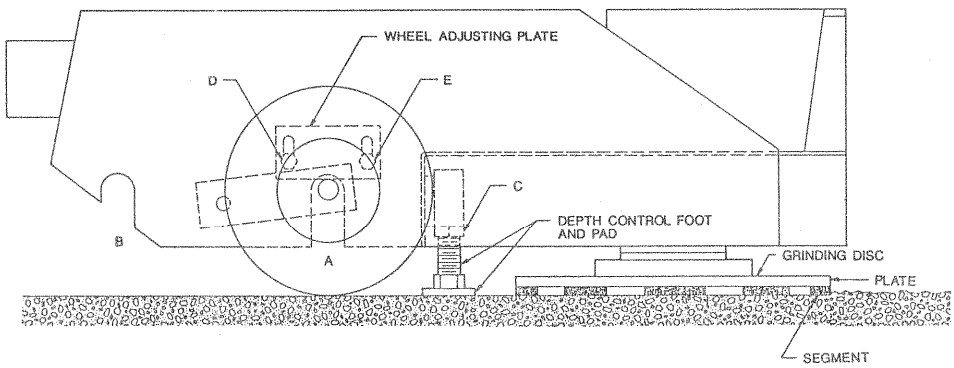
Shaft bearings should be lubricated at least once every eight hours of use.

Keep drive belts tight - check tension after first days operation - new belts tend to stretch. Refer to Parts List diagram.

The Dyma-Grinder is pre-set to grind flat at the factory.

If re-adjustment is necessary - place unit on flat, smooth surface. Grinding disc should touch surface at all segment points - (Diagram #1). Wheels in position "A".

DIAGRAM #1



As segments wear it will be necessary to adjust the position of the wheels and the depth control foot and pad.

To raise depth control foot - loosen locking nut "C" - turn depth control foot clockwise - until foot is off the surface.

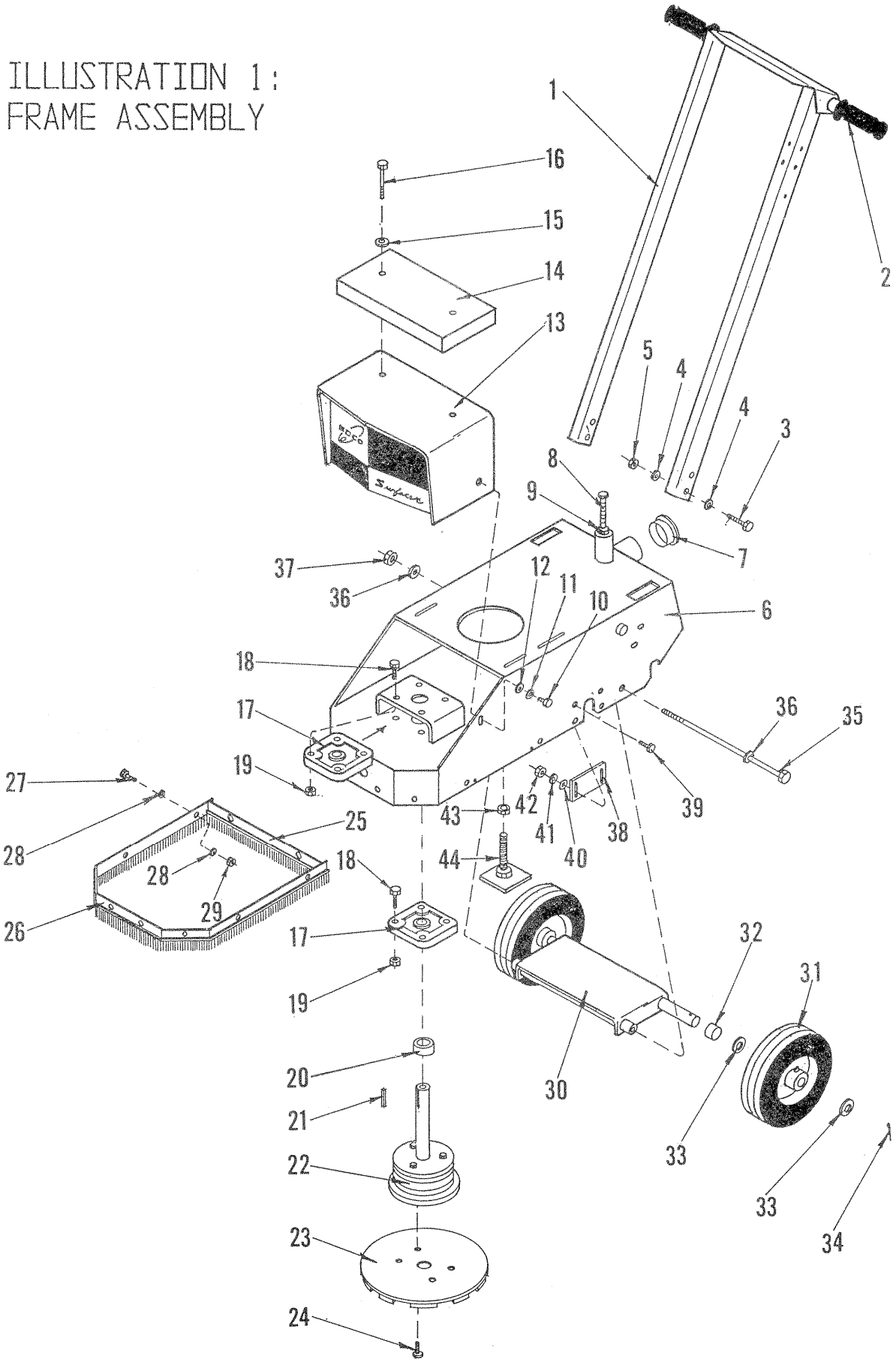
Disc and wheel should be touching slab surface - Adjust wheel height - until grinding disc is flat against slab - Loosen bolts "D" and "E" slide wheel adjusting plate up or down until wheel allows the grinding disc segments contact the slab at all points. Tighten bolts.

Lower depth control foot (turn counter-clockwise until pad is flat on slab) - be careful that it does not raise the grinding disc.

Tighten locking nut "C". Grinder should be correctly aligned.

NOTE: These changes in grinding disc position do not have to be made frequently since segments wear slowly and grinding concrete is rarely a precise operation.

ILLUSTRATION 1:
FRAME ASSEMBLY



PARTS LISTING - ILLUSTRATION 1: FRAME ASSEMBLY

Item #	Part #	Description	Qty.
1.	86012	Handle Bar	1
2.	61108	Grip, Hand 1" Ribbed	2
3.	10029	Screw, Cap 3/8-24 x 1-3/4	4
4.	10025	Washer, Flat 3/8	8
5.	10004	Nut, Lock 3/8-24	4
6.	86002	Main Frame	1
7.	64030	Caplug 3"	1
8.	73003	Rod, Allthread Bolt 5/8-8 x 12	1
9.	50008	Nut 5/8-8 Acme	1
10.	10055	Screw, Cap 3/8-16 x 1	2
11.	10811	Washer, Lock 3/8	2
12.	10025	Washer, Flat 3/8	2
13.	86001	Hood	1
14.	86013	Weight Block 30 Lb. WT-5	1
15.	10312	Washer, Lock 1/2	2
16.	10340	Screw, Cap 1/2-13 x 3	2
17.	77008	Bearing, Ball 1" 4-Hole Flange	2
18.	10003	Screw, Cap 7/16-20 x 1-1/4	8
19.	10002	Nut, Lock 7/16-20	8
20.	10427	Collar, Locking 1"	1
21.	10305	Key 1/4Sq. x 1-1/4	1
22.	86105	Diamond Head Assembly (See Illus. 3 for Breakdown)	1
23.	-----	Diamond Disc (Not Included)	
24.	-----	Screw (See Illus. 3)	4
25.	86120	Brush 1-1/2 x 12"L	1
26.	86121	Brush 1-1/2 x 41-1/2"L	1
27.	10018	Screw, Cap 1/4-20 x 3/4	10
28.	10602	Washer, Flat 1/4	20
29.	10015	Nut, Lock 1/4-20	10
30.	86003	Carriage, Swing Axle	1
31.	79013	Wheel 8 x 2-1/2 x 3/4	2
32.	80022	Spacer 3/4"ID x 13/16"L	2
33.	10009	Washer, Flat 3/4	4
34.	10306	Pin, Cotter 3/16 x 1-1/2	2
35.	10421	Screw, Cap 1/2-13 x 13	1
36.	10312	Washer, Flat 1/2	2
37.	10407	Nut, Lock 1/2-13	1
38.	73004	Plate, Wheel Height Adjusting	2
39.	10021	Screw, Cap 3/8-24 x 1	4
40.	10025	Washer, Flat 3/8	4
41.	10811	Washer, Lock 3/8	4
42.	10004	Nut, Lock 3/8-24	4
43.	10403	Nut, Jam 3/4-10	1
44.	86106	Foot, Depth Adj. Control	1

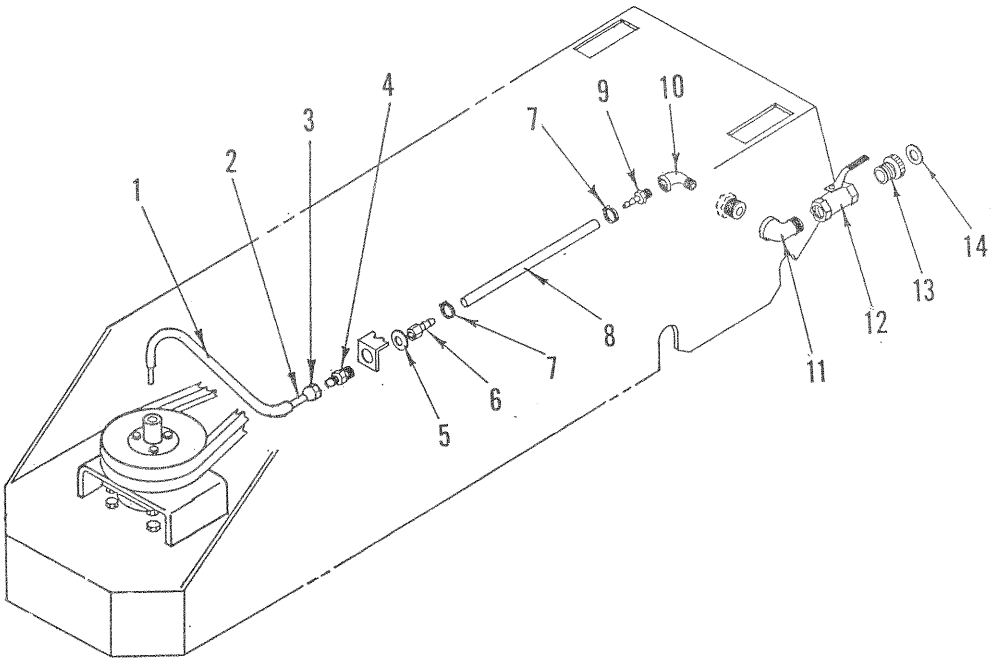


ILLUSTRATION 2: WATER PIPING

Item #	Part #	Description	Qty.
1.	86019	Cover, Rubber	1
2.	86020	Tube, Copper 1/4"OD x 10"L	1
3.	10737	Nut, Flare 1/4"	1
4.	86025	Fitting, Half-Union 1/4 Flare x 1/4 MPT	1
5.	10312	Washer, Flat 1/2 (9/16 Hole)	1
6.	10739	Barb, 5/16Hose x 1/4FPT	1
7.	50069	Clamp, Hose Adj. 5/16 to 7/8"	2
8.	86021	Hose 3/8"ID x 9"L	1
9.	50075	Barb, 3/8Hose x 1/4MPT	1
10.	85039	Elbow, Street 1/4NPT	1
11.	10724	Elbow, Street 1/2NPT	1
12.	10711	Valve, Ball 1/2FPT	1
13.	80021	Connector, Swivel Female 3/4 Hose x 1/2 MPT	1
14.	10070	Washer, Hose 3/4"	1

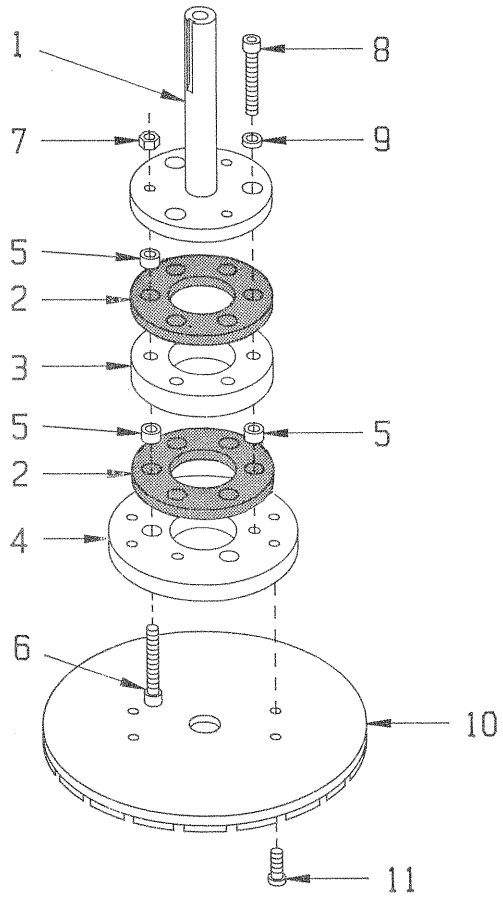
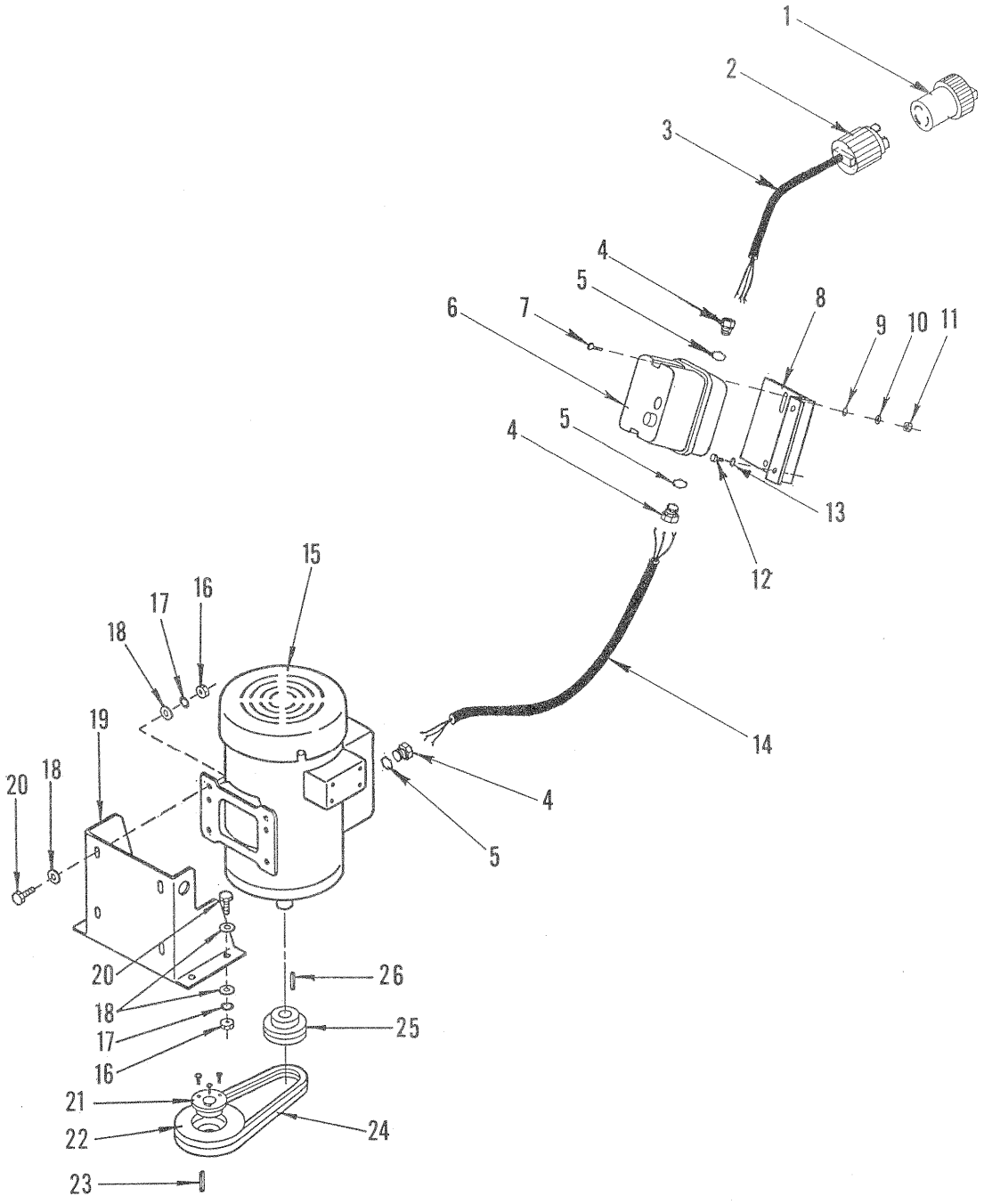


ILLUSTRATION 3: DIAMOND HEAD ASSEMBLY

Item #	Part #	Description	Qty.
1-9.	86105	DIAMOND HEAD ASSEMBLY (Includes Items 1 thru 9)	
1.	86101	Hub and Shaft Assembly	1
2.	86102	Rubber Ring 3/8"Thk.	2
3.	86103	Spacer 4-1/2"OD x 13/16"Thk.	1
4.	86104	Mounting Disc 6"Dia.	1
5.	86109	Spacer, Steel 7/16"ID x 3/8"W	9
6.	86110	Screw, Skt. Hd. 7/16-20 x 2-1/2	3
7.	10002	Nut, Lock 7/16-20	3
8.	86111	Screw, Skt. Hd. 7/16-20 x 2	3
9.	86112	Spacer, Steel 7/16"ID x 7/32"W	3
10.		Diamond Disc (Not Included)	
	19210	10" Dry-Cut W/ Replaceable Rings	
	19220	12" Dry-Cut W/ Replaceable Rings	
	19150	10" Wet-Cut, 10 Segments	
	19160	10" Wet-Cut, 20 Segments	
	19170	12" Wet-Cut, 20 Segments	
11.	86107	Screw, Low Head 3/8-24 x 1 for Dry-Cut Diamond Disc	4
or	86108	Screw, Flat Head 3/8-24 x 3/4 for Wet-Cut Diamond Disc	4

ILLUSTRATION 4: ELECTRIC POWER OPTIONS



PARTS LISTING - ILLUSTRATION 4: ELECTRIC POWER OPTIONS

Item #	Part #	Description	Qty.
1.	40000	Plug, Female Conn. 20A/250V	1*
2.	40037	Plug 20A/250V	1*
3.	86026	Wire Harness 10/3 x 24"	1
or	86022	Wire Harness 12/4 x 24"	1
4.	10605	Connector, Strain Relief 3/4NPT x .650-.750"Range	3
5.	10740	Nut, Conduit Lock 3/4 NPT	3
6.	85045	Starter	1
7.	10362	Screw, Machine 8-32 x 3/4	2
8.	86027	Mounting Brkt., Lg. Starter	1
9.	10850	Washer, Flat #10	2
10.	10461	Washer, Int. Tooth #8	2
11.	10462	Nut 8-32	2
12.	10846	Screw, Self-Tap 1/4-20 x 1/2	2
13.	10038	Washer, Lock 1/4	2
14.	86024	Wire Harness 10/3 x 36"	1
or	86023	Wire Harness 12/4 x 36"	1
15.	81026	Motor, Baldor 5 HP - 1 Phase	1
or	81022	Motor, Baldor 5 HP - 3 Phase	1
16.	10014	Nut 3/8-24	8
16.	10811	Washer, Lock 3/8	8
18.	10025	Washer, Flat 3/8	8
19.	77037	Mount, Motor	1
20.	10021	Screw, Cap 3/8-24 x 1	8
21.	10043	Bushing, Sheave SDS x 1"Bore	1
22.	79032	Sheave 5"OD x 2GrB x SDS	1
23.	10305	Key 1/4 Sq. x 1-1/4	1
24.	10047	Belt 5L-300	2
25.	79023	Sheave 3"OD 2Gr.B 1-1/8"Bore	1
26.	10115	Key 1/4 Sq. x 2	1

* Note: Plug and Connector (Items #1 & 2) are not supplied on 3 phase units.

ILLUSTRATION 5: GASOLINE POWER OPTIONS

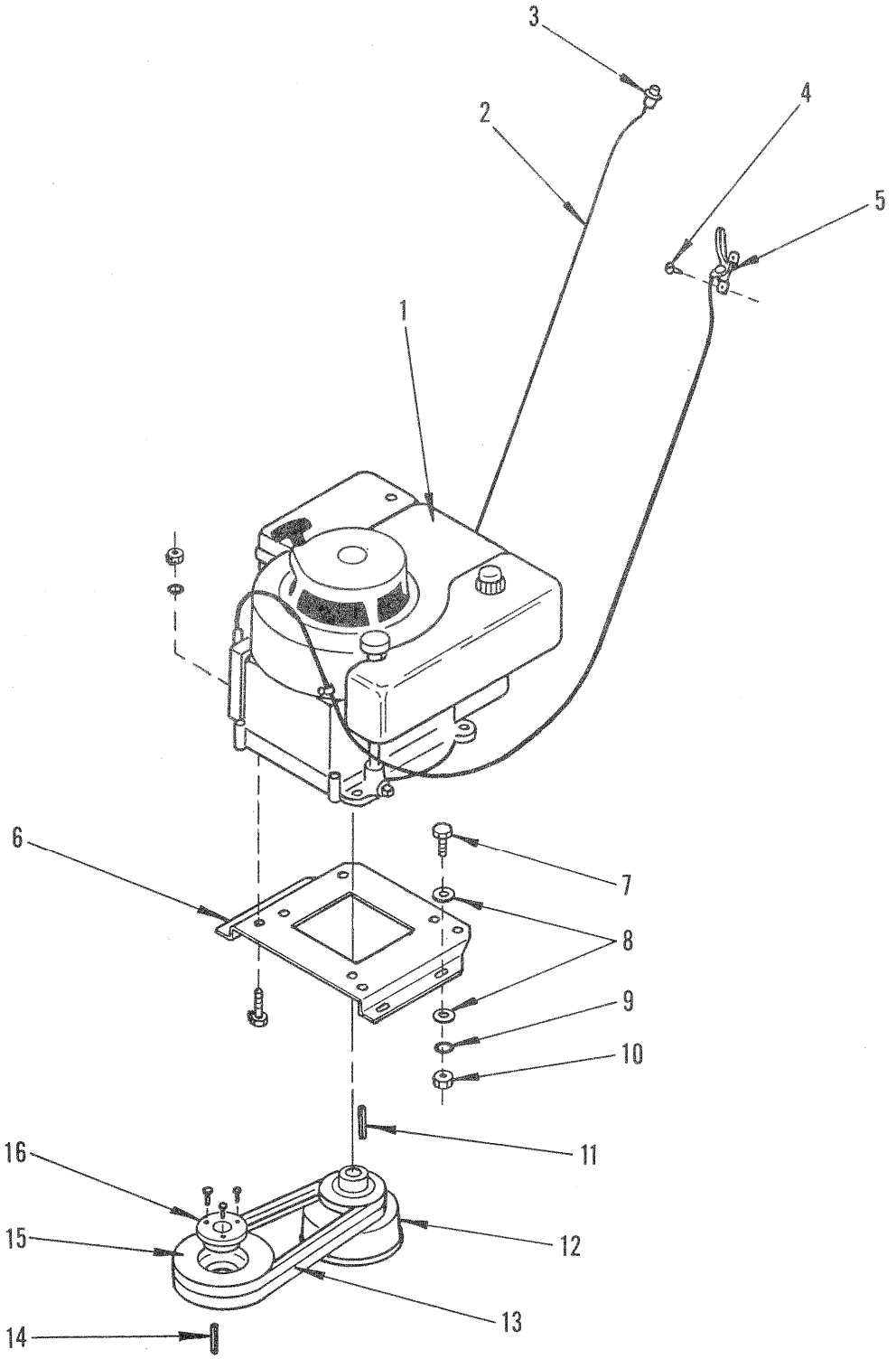


ILLUSTRATION 5: GASOLINE POWER OPTIONS

Item #	Part #	Description	Qty.
1.	76022	Engine, B&S 8 HP (Shown)	1
or	79045	Engine, Honda 11 HP	1
or	15026	Engine, Sovereign 11 HP	1
2.	50065	Wire 14 Ga., Stop Button	1
3.	50010	Switch, Stop Button	1
4.	10828	Screw, Self-Tap 10-24 x 1/2	2
5.	3611	Cable, Throttle	1
6.	76023	Mounting Brkt., Engine	1
7.	10055	Screw, Cap 3/8-16 x 1	4
8.	10025	Washer, Flat 3/8	8
9.	10811	Washer, Lock 3/8	4
10.	10404	Nut 3/8-16	4
11.	10017	Key 1/4 Sq. x 2-3/8	1
12.	76024	Clutch 3.5"OD x 2GR x 1"Bore	1
13.	10234	Belt 5L-290	2
or	10047	Belt 5L-300	2
or	10250	Belt 5L-310	2
14.	10305	Key 1/4 Sq. x 1-1/4	1
15.	79032	Sheave 5"OD x 2Gr.B x SDS	1
16.	10043	Bushing, Sheave SDS x 1"Bore	1

IMPORTANT!!!

When ordering parts, please specify the MODEL and SERIAL number of the machine as given on the name plate and give quantity, part number, and description as listed on the parts list.