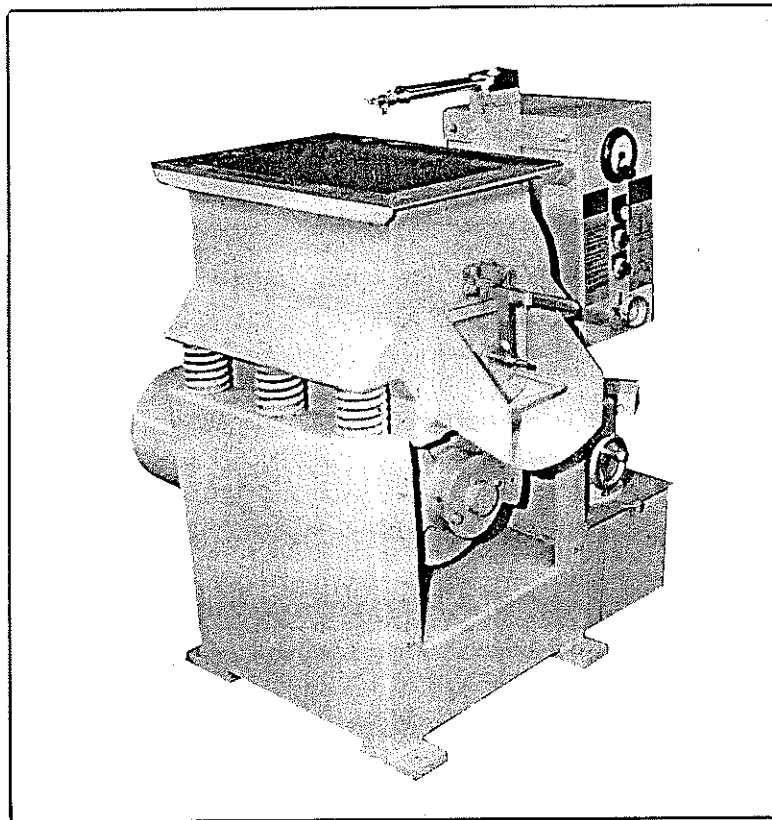


smico
corporation



VIBROSET[®]

VIBRO-FINISHER



OPERATION INSTRUCTIONS



Receiving

SHIPMENT RECEIVING

SMICO VIBRO FINISHERS ARE SHIPPED COMPLETE, CRATED AND ON SKIDS READY FOR OPERATION HAVING BEEN TEST RUN AT THE FACTORY PRIOR TO SHIPMENT.

CAUTION: INSPECT MACHINE UPON ARRIVAL TO INSURE UNIT HAS NOT BEEN DAMAGED IN TRANSIT. IN CASE OF DAMAGE CALL YOUR TRUCK LINE IMMEDIATELY.

REMOVE OUTER CRATING AND SKID. ALWAYS LIFT UNIT BY MEANS OF LEVERAGE AT BOTTOM OF BASE. DO NOT ATTEMPT TO MOVE UNIT BY APPLYING ANY FORCES AGAINST DRIVE GUARD: ELECTRIC PANEL, AND POST SUPPORTS. DO NOT PLACE ANY FORCE AGAINST THE DRUM WHICH IS MOUNTED ON SPRINGS.

installation

INSTALLATION INSTRUCTIONS

PLACE VIBRO FINISHER INTO AREA WHERE IT WILL BE OPERATED AND PREFERABLY ON A CONCRETE FLOOR.

PLACING MACHINE

TO MOUNT MACHINE TO FLOOR FOR SECURE OPERATION, MARK MOUNTING HOLES FOR DRILLING BY USING HOLES LOCATED IN THE FEET OF THE VIBRO MACHINE AS A TEMPLATE. MOVE MACHINE ASIDE TO DRILL HOLES IN FLOOR. INSERT ANCHOR FOR A 1/2" INTO DRILLED HOLES. PLACE MACHINE BACK OVER HOLES DRILLED.

SECURE MACHINE TO FLOOR WITH 1/2" BOLTS.

BEFORE FINAL SECURING OF THE BOLTS FIRST LEVEL MACHINE BY PLACING A LEVEL ON THE BASE OF THE DRUM AT THE LOCATION PARALLEL AND ALONG SIDE OF THE ROW OF SPRINGS. BY LEVELING THE DRUM ONE LEVELS THE VIBRATOR MECHANISM. PLACE SHIM STOCK BENEATH THE STEEL FEET TO LEVEL AND SECURE BOLTS FIRMLY.

BEFORE STARTING

PREPARE FOR OPERATIONAL USE

REMOVE BRACING BETWEEN DRUM AND BASE BY FIRST REMOVING TIE RODS USED FOR SECURING DRUM TO BASE IN SHIPMENT.

NOTE! NEVER START-UP THE VIBRO FINISHER UNTIL THIS BRACING HAS FIRST BEEN REMOVED SINCE OPERATING MACHINE IN THIS SHIPPING CONDITION CAN CAUSE DAMAGE TO UNIT.



Utilities - Water & Electricity

UTILITY CONNECTING INSTRUCTIONS

WATER SUPPLY FOR MACHINE RUN 1/2" WATER LINE TO BELOW MACHINE WATER CUT OFF VALVE. NORMAL CITY WATER PRESSURE IS SUFFICIENT FOR OPERATING THE VIBRO FINISHER MACHINE.

DRAIN CONNECTION

RUN DRAIN WATER FROM VIBRO FINISHER MACHINE TO THE COMMON SEWER SYSTEM. IT IS RECOMMENDED, HOWEVER, THAT THE DRAIN FROM THE VIBRO MACHINE BE PASSED THRU A SIMPLE TRAP ARRANGEMENT TO REMOVE THE RESIDUE THAT WILL WEAR OFF FROM MEDIA USED IN THE MACHINE. FINISHING OPERATION. THE REMOVING OF THE RESIDUE IN A TRAP ARRANGEMENT WILL AVOID CAUSING BUILD UP OF RESIDUE IN THE PIPES OF THE CUSTOMER'S DRAIN SYSTEM.

ELECTRICAL CONNECTION

SMICO VIBRO FINISHERS ARE FURNISHED WITH AN ELECTRIC PANEL BOX TO OPERATE MACHINE CONTAINING START AND STOP CONTROL PUSH BUTTON STATIONS. CUSTOMER IS TO RUN CURRENT TO PANEL BOX MAGNETIC STARTER. CUSTOMER IS ALSO TO DESIGNATE TYPE CURRENT REQUIRED FOR HIS PLANT OPERATION AND MACHINE IS SET UP AT THE FACTORY AND SHIPPED MARKED FOR THE CUSTOMER'S SPECIFIED CURRENT.

Compound Pump

THE VIBRO FINISHER MACHINE'S MOTOR AND PUMP ARE CONNECTED TO THE UNIT'S ELECTRICAL PANEL AND ARE OPERATED FROM THE MAIN PANEL. A SPECIAL TOGGLE SWITCH IS LOCATED ON THE REAR OF THE PANEL BOX AND THIS SWITCH CAN SHUT OFF THE PUMP WHENEVER THE PLANT DOES NOT REQUIRE THE COMPOUND TO BE PUMPED INTO THE DRUM FINISHING PROCESS.

Operating Requirements

TO PLACE MACHINE INTO OPERATION USE THE FOLLOWING PROCEDURE:

SELECT MEDIA TO ACCOMPLISH REQUIREMENTS ON THE PARTS TO BE PROCESSED.

MEDIA: FILL MACHINE DRUM WITH MEDIA TO APPROXIMATELY 3/4 FROM TOP OF DRUM OPENING.

COMPOUND: FILL MACHINE TANK WITH COMPOUND (MAX VISCOSITY 200) AT THE PUMP RESERVOIR POSITION UNTIL COMPOUND LEVEL REACHES 2" BELOW RESERVOIR TOP COVER. APPLY RUST INHIBITOR TO THE COMPOUND WHENEVER SPECIFIC PARTS REQUIRE THE INHIBITOR.



Media Orbiting

TO ORBIT MEDIA AND PARTS: ON THE ELECTRICAL CONTROL PANEL, SET MEDIA ORBIT SWITCH FOR MEDIA TO ORBIT IN COUNTERCLOCKWISE DIRECTION. THE PATENTED DESIGN OF THE SMICO VIBRO FINISHER DRUM CURVATURE ALLOWS FOR MEDIA AND PARTS TO PROPERLY ORBIT TOGETHER THUS PRODUCING CORRECT RESULTS. THE DRUM AND MEDIA ORBIT CAN ALSO BE REVERSED TO ACCOMMODATE AN OPERATION WHERE NEEDED BY THE DIALING OF THE SWITCH TO THE CLOCKWISE POSITION.

Manual Control

OPERATING MACHINE ON A MANUAL CONTINUOUS BASIS: SET TIMER SWITCH FROM OFF TO HAND MANUAL POSITION.

START MACHINE BY PRESSING GREEN START BUTTON.

STOP MACHINE BY PRESSING RED STOP BUTTON.

Automatic Control

OPERATING MACHINE ON AN AUTOMATIC TIMER BASIS: SET FLIP SWITCH TO OFF. POSITION. DIAL TIMER TO CORRECT NUMBER OF OPERATIONAL MINUTES OR HOURS DESIRED.

SET FLIP SWITCH NOW TO AUTOMATIC POSITION.

START MACHINE BY PRESSING RED BUTTON LOCATED ON THE TIMER DIAL.

STOP MACHINE BY TURNING FLIP SWITCH TO OFF POSITION.

NOTE: ALWAYS CHECK TO BE SURE THE ORBIT DIRECTIONAL SWITCH IS ON COUNTERCLOCKWISE POSITION.

The Art of Vibro-Finishing

VIBRATORY FINISHING MAY BE CONSIDERED CLASSIFIED AS AN ART AND NOT A SCIENCE.

WITH A SMICO VIBRO FINISHER EXCELLENT AND DESIRED RESULTS IN FINISHING OF PARTS CAN BE OBTAINED BEST BY THE USE OF COMBINATIONS OF AIDS AS FOLLOWS:

- (A) VARYING THE MACHINE'S AMPLITUDE STROKE FROM A SHORT TO A LONGER STROKE.
- (B) VARYING THE SPEED OF OPERATION IN RPM
- (C) USE OF VARIOUS MEDIA TO ACCOMMODATE THE FINISH
- (D) USE OF VARIOUS COMPOUNDS FOR BETTER RESULTS

THIS VERSATILITY IN THE VIBRO FINISHER MACHINE MAY GIVE THE IMPRESSION THAT AN INFINITY OF TESTS MAY BE REQUIRED TO OBTAIN THE PROPER FINISH. HOWEVER, SHORT PRACTICE AND EXPERIENCE WILL ELIMINATE MUCH OF THE VARIABLES AND THE OPERATOR WILL BE CAPABLE OF DOING A MUCH MORE SATISFACTORY FINISHING JOB.

Basis of Selecting Media

MEDIA IS SELECTED ON THE BASIS OF WHETHER FAST CUTTING IS PREFERRED TO A BETTER POLISHED SURFACE. ONE MAY END UP WITH A COMPROMISE: ALSO ONE MAY REQUIRE TO CUT IN THE FIRST OPERATION AND POLISH IN THE SECOND OPERATION.



Trick of the Trade

THE AMOUNT, SIZE, AND TYPE OF ABRASIVE DETERMINES THE SPEED OF CUTTING AND POLISHING. MEDIA FOR POLISHING IS USUALLY QUITE FINE AND IN LESSER PROPORTION TO CERAMIC BODY.

MANY HAVE THE MISCONCEIVED IDEA THAT THE SPEED WITH WHICH THE MEDIA AND PARTS REVOLVE IN THE MACHINE CONSTITUTES THE RATE OF CUT OR POLISH. CUTTING OR POLISHING IS ACTUALLY ACCOMPLISHED BY THE CONSTANT VIBRATORY CONTACT OR MOVEMENT OF PART SURFACES AGAINST THE MEDIA.

THE REVOLVING MASS MERELY INSURES UNIFORMITY OF WORK. PARTS AT THE BOTTOM OF THE DRUM HAVE MORE MASS OR WEIGHT ON THEM - HENCE MORE CUTTING THAN THOSE AT THE TOP, THUS THE REVOLVING MOVEMENT IS NEEDED FOR UNIFORMITY OF CUT.

VIBRO FINISHING CAN BE READILY DESCRIBED OR ILLUSTRATED BY COMPARISON FOR EXAMPLE WITH FILING OF METAL. A COARSER FILE FURNISHES ROUGHER AND FASTER CUTTING. GREATER PRESSURE ON FILE, MORE CUTTING. FASTER MOTION FASTER CUTTING. AND IT IS MUCH EASIER AND QUICKER TO FILE OFF EDGES AND PROJECTIONS THAN IT IS TO FILE FLAT SURFACES.

NORMALLY SMICO VIBRO FINISHERS USE MORE THAN A #1 OR #2 STROKE. MOST UNIVERSAL SPEED, 1700 RPM, HEAVIER STROKE FOR CUTTING AND LIGHTER FOR POLISHING.

Choosing Media for the Job

FOR SELECTION OF MEDIA. THE HARDNESS OF THE METAL, AMPLITUDE AND SPEED SHOULD ALWAYS BE TAKEN INTO CONSIDERATION. SOFT METALS, MOSTLY NON-FERROUS, MAY PEAN WITH TOO MUCH STROKE OR SPEED AND CONTACT BETWEEN PARTS. MEDIA IS ALSO SELECTED AS TO SIZE ON A "GO AND NO GO" BASIS WHERE HOLES, CORNERS, ETC., ARE FOUND IN THE PARTS.

FOR VIBRO FINISHING, TWO THINGS COMMON TO BARREL FINISHING MUST BE ELIMINATED WHERE YOU ONLY CHARGE A BARREL WITH PARTS AND MEDIA TO 45 OR 50% CAPACITY AND THEN COVER WITH WATER AND COMPOUND. WITH VIBRO FINISHING 90 TO 95% OF YOUR VIBRO FINISHER DRUM FILLED WITH PARTS AND MEDIA TO PREVENT CASCADING AND PROVIDE PROPER REVOLVING OF THE PARTS AND MEDIA IN THE VIBRATING DRUM. WATER IS KEPT TO THE NORMAL MINIMUM OR THE ACTION WILL BOG DOWN FROM EXCESSIVE LUBRICATING ACTION. USE JUST ENOUGH WATER WITH COMPOUND TO KEEP PARTS AND MEDIA WET AND CLEAN.



CLEANLINESS IMPORTANT

CUTTING SPEED AND COLOR OF PARTS ARE BOTH EFFECTED BY CLEANLINESS OF THE MEDIA. VIBRO FINISHER MACHINES USE A CIRCULATING SYSTEM IN WHICH FRESH TAP WATER SPRAYS INTO THE DRUM ALONG WITH COMPOUND THAT IS INTRODUCED IN ANY GIVEN VOLUME. COMPOUND (WET OR DRY) IS MIXED AND PLACED IN THE MACHINE'S TANK WITH A PROVIDED PUMP FORCE, AND THE COMPOUND MOISTURE THRU A REGULATING NOZZLE INTO THE VIBRO DRUM. WATER IS DRAINED CONTINUOUSLY FROM THE DRUM TO THE CUSTOMER'S SEWER AND A FRESH CLEAN SUPPLY OF WATER AND COMPOUND IS ALWAYS AVAILABLE. CLEAN MEDIA - LIKE A CLEAN FILE - CUTS FASTER WITH IMPROVED COLOR.

Speed & Amplitude Control

POSITIVE ECCENTRIC ACTION

THE VIBRATING MECHANISM ON SMICO MACHINES IS A POSITIVE ECCENTRIC ACTION. THE BALANCED DESIGN PROVIDES FOR A STROKE OF THE DESIRED AMPLITUDE AND A STROKE THAT REMAINS CONSTANT REGARDLESS OF WEIGHT OF MEDIA AND/OR PARTS. BALANCED ECCENTRIC VIBRATORS REQUIRE LESS HORSEPOWER, TRANSMIT LESS VIBRATION TO STRUCTURE AND PROVIDE LONGER BEARING LIFE. STROKE IS ADJUSTABLE TO ANY ONE OF FOUR SETTINGS BETWEEN ZERO AND 1/8" BY MERELY LOOSENING A BOLT ON EACH END AND MOVING WEIGHTS TO A NEW SETTING.

VARIABLE SPEED OPERATION

VARIABLE SPEED IS ACCOMPLISHED BY THE USE OF A FIXED CENTER V-BELT VARI-DRIVE. A TURN OF THE DRIVE HAND WHEEL PROVIDES EASY SPEED ADJUSTMENT WHICH CAN BE READ DIRECTLY FROM THE BUILT-IN SCALE.

AMPLITUDE AND CONTROLS

ONE VERY DEFINITE ADVANTAGE OF THE SMICO MACHINE IS THE WAY IT LENDS ITSELF TO THE WRITING OF PROCESS SPECIFICATIONS. BY HAVING POSITIVE AMPLITUDE AND VARIABLE SPEED CONTROLS, IT IS POSSIBLE TO WRITE SPECS THAT WILL REPEAT WITH THE SAME RESULTS TIME AND TIME AGAIN.

EASY UNLOADING

THE END DISCHARGE PROVIDES A SIMPLE EFFECTIVE MEANS OF UNLOADING PARTS AND MEDIA. THIS DESIGN FITS READILY TO THE USE OF MEDIA SCREENS AND/OR AN AUTOMATED BATCH OR CONTINUOUS OPERATION.

COMPOUND METERING SYSTEM

THE COMPOUND METERING SYSTEM IS A POSITIVE FEED THRU SYSTEM WHEREBY THE COMPOUND AND WATER ARE METERED INTO THE TUB IN A CONTINUOUS STREAM THUS KEEPING ALL RESIDUE FROM THE PARTS AND MEDIA WASHED OUT THROUGH THE SCREENED DRAIN IN THE END OF THE TUB. KEEPING THE LOAD CLEAN PREVENTS LODGING OF MEDIA RESIDUE INTO THREADED PARTS OR



BLIND HOLES, PLUS IT PREVENTS LOADING OF THE MEDIA THUS GIVING A FASTER RATE CUT. THIS SYSTEM IS BUILT INTO THE UNIT IN SUCH A MANNER THAT ONCE A SETTING IS ACHIEVED, THE FLOW OF BOTH THE WATER AND THE COMPOUND CAN BE SHUT OFF AND TURNED BACK ON WITHOUT RESETTING THE MIX OR AMOUNT OF FLOW MAKING SPECIFICATION REPETITIVE PROCESSING POSSIBLE.

WHILE THE OPERATION MAY SOUND COMPLICATED AT FIRST, IT ONLY REQUIRES PATIENCE AND COMMON SENSE TO GET GOOD RESULTS.

CAUTION : Deburring vs Polishing

A WORD OF CAUTION ON DEBURRING SOFTER (NON-FERROUS) METALS AND PARTICULARLY EXTRUDED ALUMINUM, ETC.: IF YOUR MEDIA IS TOO HARSH AND HEAVY, YOU MAY TURN THE BURRS OVER AND THEN THE JOB IS MORE DIFFICULT AND TIME CONSUMING. ON THESE METALS, IT IS WELL TO TRY THE SLOWER RPM AND SHORTER AMPLITUDE "SOFT TOUCH" APPROACH AND WEAR OFF THE BURRS.

POLISHING IS, TO LARGE EXTENT, DEPENDENT UPON THE METAL. STAINLESS STEELS AND CARBON STEELS USUALLY POLISH WELL. ON THE CONTRARY, ZINC IS A DEAD METAL AND WILL NOT TAKE A LUSTER FINISH.

THE MATTER OF PARTS SEPARATION CAN BE HANDLED IN A NUMBER OF WAYS BY THE USE OF A CENTRAL PARTS SEPARATOR, OR BY DUMPING THE MASS ON A SEPARATOR, THE PARTS BEING CARRIED OVER TO A TOTE PAN OR CONVEYOR WHILE THE MEDIA IS EITHER CONVEYED INTO THE PROCESSING, OR BY THE USE OF A SKIP HOIST.

SEPARATE PARTS AND MEDIA OPERATING IN ONE MACHINE

AVAILABLE WITH ALL OF THESE UNITS ARE QUICK ATTACH DIVIDERS. THESE DIVIDERS ARE EASILY INSERTED AND REMOVED TO CHANGE ANY GIVEN MACHINE FROM A SINGLE TUB TO A MULTIPLE TUB UNIT. THIS ALLOWS THE RUNNING OF SEVERAL DIFFERENT PARTS AT ONE TIME WITHOUT MIXING, AND IN SEPARATION OF MEDIAS. ALSO, IT IS POSSIBLE TO CONVERT A LARGE UNIT TO A SMALL UNIT IF THERE IS ONLY A FEW PARTS TO BE PROCESSED, THUS SAVING TIME IN LOADING AND UNLOADING AND WILL SAVE ON MEDIA COST AS A SMALL AMOUNT CAN BE USED. BARREL COMPARTMENTATION MAKES POSSIBLE RUNNING LARGE INDIVIDUAL PARTS IN SEPARATE COMPARTMENTS PROVIDING MAXIMUM PART PROTECTION FOR PART TO PART CONTACT.

**Bearing Information For:
5, 7, 9, & 10 cu ft**

Bearings are hand-packed at the factory for positive lubrication. Prior to assembly the Vibro-set drive is run on a test block to make sure the bearings are operating properly.

Lubrication Service

It is necessary to grease the bearings only once(1) a month on an eight (8) hour day operation. Too much grease will cause the bearings to over-heat and could cut down the life of the bearings. A maintenance log should be maintained to prevent over greasing or under-greasing of the bearings. Approximately 6 squirts of grease is more than ample on greasing the bearings.

Type of Grease Recommended

The grease recommended for the bearings by the manufacturer is SHELL ALVANIA #3. This grease is a high temperature grease designed for heavy load operations.

Location of Grease Fitting for Lubrication

The grease fitting can be found on the outside plate of the bearing housing (part no. 13976-1). See illustration - inverted position for drawing purposes only.

Release Valve:

Located on the top of the bearing housing, the 5 lb. release valve will permit any excess grease to be expelled while greasing or during operation. Do not become alarmed after greasing, if a small amount of grease is discharged. It is normal for the bearings to discharge any excess grease after being greased, when heat builds up and causes expansion, thus the excess grease is discharged.

Bearing Information For 1½ & 3 cu ft

The bearing used in the 1½ & 3 cu. ft. Vibro-Finishers are sealed bearing and do not require greasing. These bearings are inspected at the factory prior to assembly by SMICO to insure that the bearings do not have a defective seal. There is no maintenance required on the bearings for the 1½ cu. ft. & 3 cu. ft. Vibro-Finisher.

1 1/2 & 3 CU. FT. VIBRO FINISHER

TO CHANGE STROKE (BOTH SIDES OF VIBRATOR) FOR 1 1/2 CU. FT. & 3 CU. FT. VIBRO

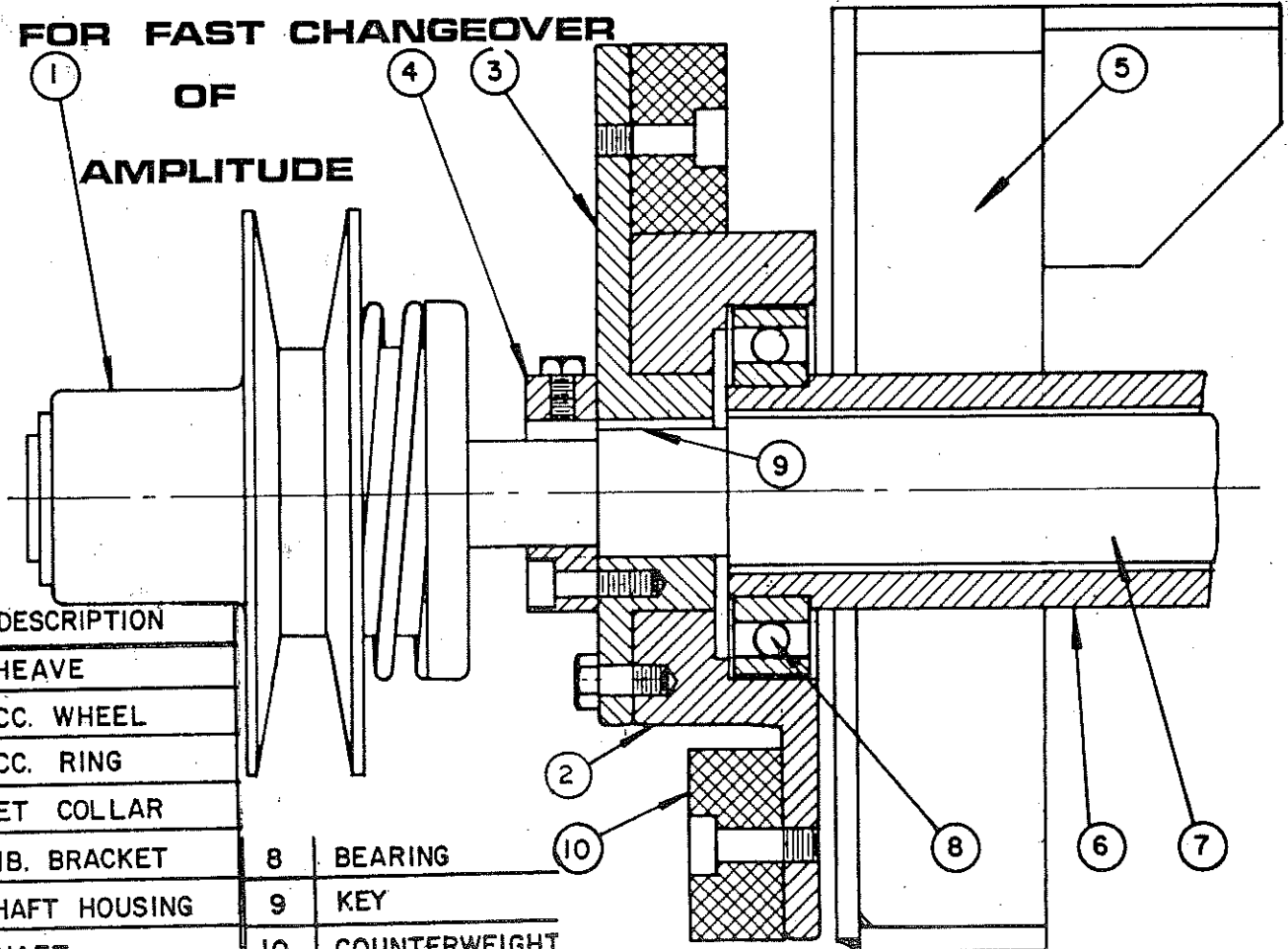


1. REDUCE VIBRATOR SPEED TO 1200 RPM AND SHUT OFF MACHINE.
2. REMOVE GUARD PLATES (A) AND (B) FROM BASE.
3. NOTE NUMBER 0 TO 4 ON THE OD OF ECCENTRIC WHEEL (E).
4. REMOVE BOLT FROM ECCENTRIC WHEEL.
5. ROTATE ECCENTRIC RING TO NEW STROKE NUMBER AND REPLACE BOLT IN ECCENTRIC WHEEL.
6. REPLACE GUARD PLATES ON BASE.
7. BE SURE BOTH DRIVE ENDS ARE ON THE SAME AMPLITUDE NO. SETTING.

TO REMOVE BEARING

1. REMOVE GUARDS FROM BASE.
2. REMOVE SET COLLAR ON BLIND END. ON DRIVE END NOTE SNAP RING, LOCKING DRIVEN SHEAVE ON SHAFT IN ADDITION TO SHEAVE SET SCREW.
3. PULL OFF ECCENTRIC RING.
4. PULL OFF ECCENTRIC WHEEL FROM O.D. OF BEARING.
5. USE PULLER PLUG (K-5) IN END OF SHAFT HOUSING AND STANDARD BEARING PULLER. (BEARING I.D. TO BE PRESS FIT ON SHAFT HOUSING).

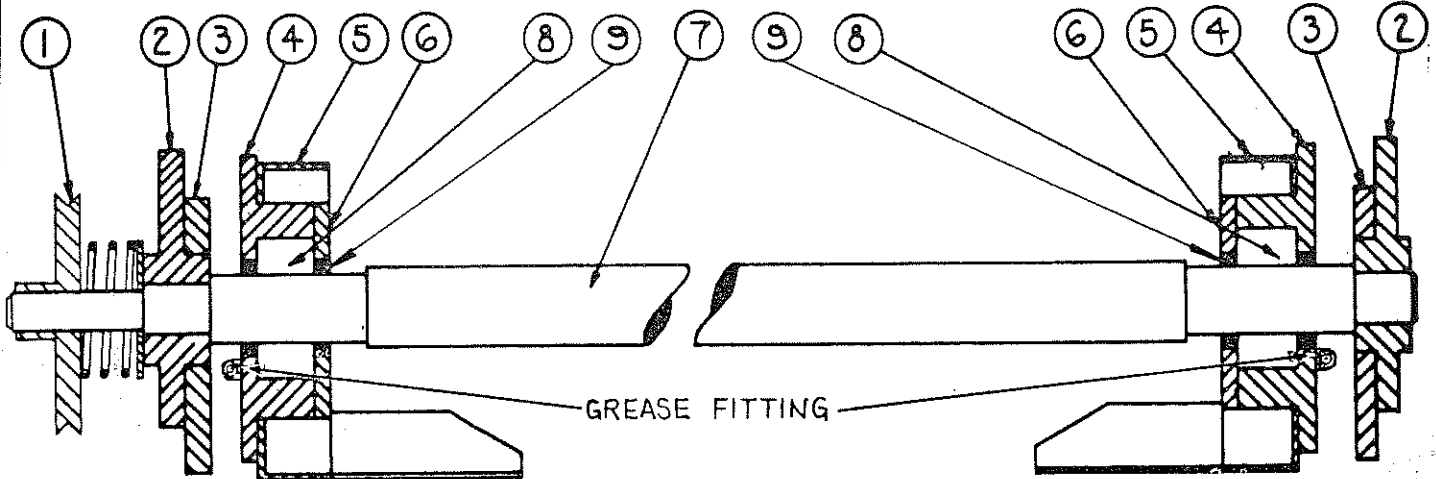
FOR FAST CHANGEOVER OF AMPLITUDE



ITEM	DESCRIPTION
1	SHEAVE
2	ECC. WHEEL
3	ECC. RING
4	SET COLLAR
5	VIB. BRACKET
6	SHAFT HOUSING
7	SHAFT
8	BEARING
9	KEY
10	COUNTERWEIGHT



VIBRO-DRIVE
VIBRATING MECHANISM
5,7,9,10 cu ft Vibros



ITEM NO.	DESCRIPTION	PART NO.
1.	SHEAVE	
2.	ECCENTRIC BUSHING	13976-2A
3.	ECCENTRIC WHEEL R&L	13976-2B
4.	BEARING HOUSING	13976-1

5.	VIBRATOR BRACKET	14059-1
6.	HOUSING PLATE	13976-3
7.	SHAFT	14059-2
8.	BEARING NORMA HOFFMAN	22312 HLAS C3 F80
9.	OIL SEAL	1039

FOR FAST AMPLITUDE CHANGEOVER

1. REDUCE VIBRATOR SPEED TO 1200 RPM AND SHUT OFF MACHINE.
2. REMOVE GUARD PLATES (A) AND (B) FROM BASE.
3. NOTE NUMBER 0 TO 4 ON THE O.D. OF ECCENTRIC WHEEL (E).
4. REMOVE BOLT FROM ECCENTRIC WHEEL.
5. ROTATE ECCENTRIC RING TO NEW STROKE NUMBER AND REPLACE BOLT IN ECCENTRIC WHEEL.
6. REPLACE GUARD PLATES ON BASE.
7. BE SURE BOTH DRIVE ENDS ARE ON THE SAME AMPLITUDE NO. SETTING.



INSTALLATION INSTRUCTIONS

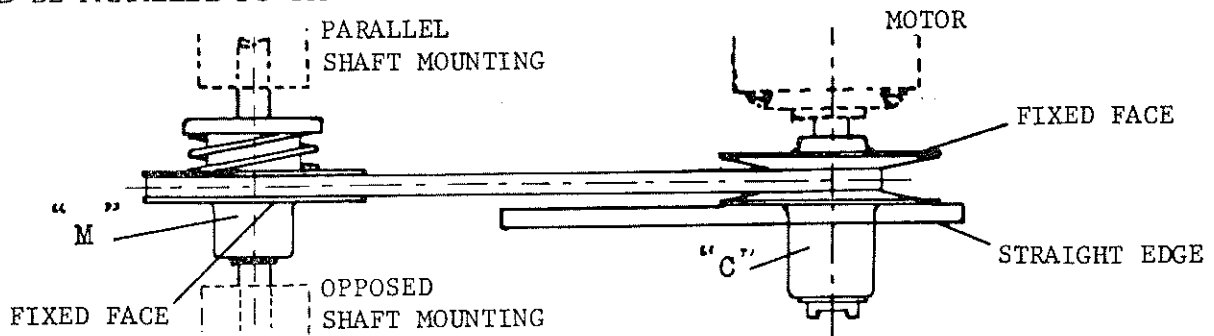
SPEED SELECTOR COMBINATION SHEAVES ARE INSTALLED IN PAIRS, A "C" TYPE (DRIVER) AND AN "M" TYPE (DRIVEN) TO PROVIDE WIDE SPEED RATIOS WITH STANDARD V BELTS. WHERE LESS RATIO IS REQUIRED, THE SPRING LOADED "M" TYPE SHEAVE CAN BE USED ALONE IN COMBINATION WITH A SPEED SELECTOR ADJUSTABLE MOTOR BASE.

MOUNTING SHEAVES

THE CONTROLLABLE "C" SHEAVE IS MOUNTED ON THE MOTOR, OR DRIVING SHAFT, AND THE SPRING LOADED "M" SHEAVE ON THE DRIVEN SHAFT. THE "M" SHEAVE MAY BE USED AS THE DRIVER WHEN NECESSARY BUT AT A SACRIFICE IN THE CAPACITY OF THE DRIVE. THE SHEAVES ARE FURNISHED FOR PARALLEL SHAFT MOUNTING, BUT THE "M" TYPE CAN BE ORDERED FOR OPPOSING MOUNTING. MAKE SURE THAT SET SCREW HEAD IS BELOW SHAFT DIAMETER TO AVOID INTERFERING WITH SLIDING FACE.

BELT ALIGNMENT

COMBINATION SHEAVES ARE DESIGNED WITH THE OPPOSITE FACES MOVABLE, WHICH MAINTAINS BELT ALIGNMENT AT ALL SPEEDS. WITH THE BELT AT MAXIMUM P.D. ON ONE SHEAVE AND AT THE MINIMUM P.D. ON THE OTHER, THE SIDE OF THE BELT SHOULD BE PARALLEL TO THE OUTSIDE OF THE SHEAVE FACES AS ILLUSTRATED.



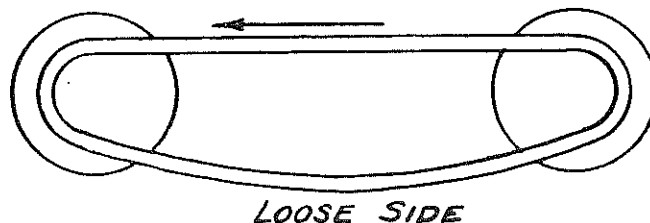
FOR THE PROPER BELT LENGTH FOR ANY CENTER DISTANCE SEE THE BELT LENGTH CENTER DISTANCE CHART IN THE CATALOG.

LUBRICATION

NONE - ALL BUSHINGS AND BEARINGS ARE PRELUBRICATED AT THE FACTORY.

OVERLOADED DRIVE

IF THE DRIVE IS OVERLOADED, THIS WILL BE INDICATED BY EXCESSIVE LOOSENESS OR WHIPPING OF THE SLACK SIDE TENSION. IN SUCH CASES, YOU SHOULD USE THE NEXT LARGER SHEAVES.





DATA

APPROVED LUBRICANTS LIST

For Operating Temperatures above 32° F.

Company	Lubricant
Socony Vacuum Oil Co.	Mobil - D.T.E. #26
Humble Oil Co.	Teresstic #52
Standard Oil Co. of Ind.	American Industrial Oil #31
The Texas Company	Texas Regal Oil P.C. - R & O
Gulf Refining Co.	Gulf Harmony Oil 53
Sinclair Refining Co.	Rubilene Oil, Light Med.
Shell Oil Co.	Tellus Oil #33
Sun Oil Co.	Sunvis #931
Sunray DX Oil Co.	#582 DX Cherokee Oil H (R & O)
Cities Service Oil Co.	Pacemaker #300T
Pure Oil Co.	PuroPale RX - Hvy. Med.
Keystone Lubricating Co.	K. V. Medium

These Oils are all lightweight non-foaming turbine type.
Volume for units is indicated in Instruction Manuals

Consult factory in cases involving lower operating temperatures
as well as above normal temperatures (150° F.).



HELPFUL POINTERS

V-BELTS!

Spot trouble before it happens

V-belts are industry's most widely used means of power transmission. They are so reliable and so common a sight in most plants that they are often taken for granted, abused, even neglected.

MAINTENANCE TIPS

Squeak

Squeak sometimes occurs on all types of belts. Dust is often a contributing factor. Never apply dressing or oil to a belt to eliminate squeak. Re-alignment of an idler may help reduce or eliminate squeak.

Squeal

This noise occurs during motor acceleration or when the motor is operating at full load. It is a definite indication of belt slippage. If it persists after all belts have been checked and tension adjusted, the drive itself should be inspected for overloading.

Cracking

Bottom cracking does not deprive a belt of any of its strength or operating efficiency, although it can eventually lead to failure. It can often be delayed or eliminated by using larger sheaves and larger reverse idler sheaves.

Oil and Grease

Belts exposed to oil and grease can fail prematurely. A cloth soaked in gasoline should be used to remove oil or grease from belts. Leaky bearings should be repaired immediately. If oil spray or leakage cannot be corrected, special oil-resistant belts should be used.

Heat

Belts operating in temperatures above 140°F should be checked for heat aging. Prolonged exposure to extreme heat can shorten their life. If the heat-producing condition cannot be corrected, a heat-resistant belt should be used.

Added loads

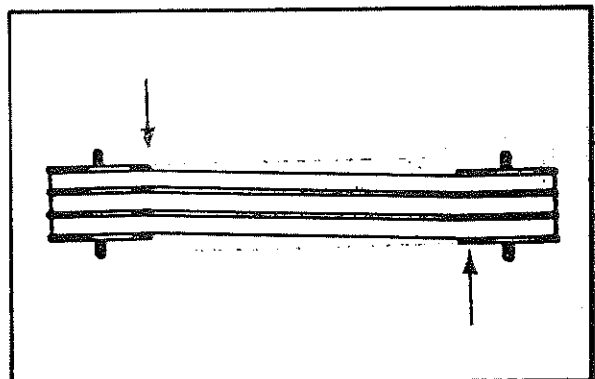
Added loads shorten belt life. A periodic check should be made to see that no additional loads have been added since the original drive was selected.

CHECK SHEAVES

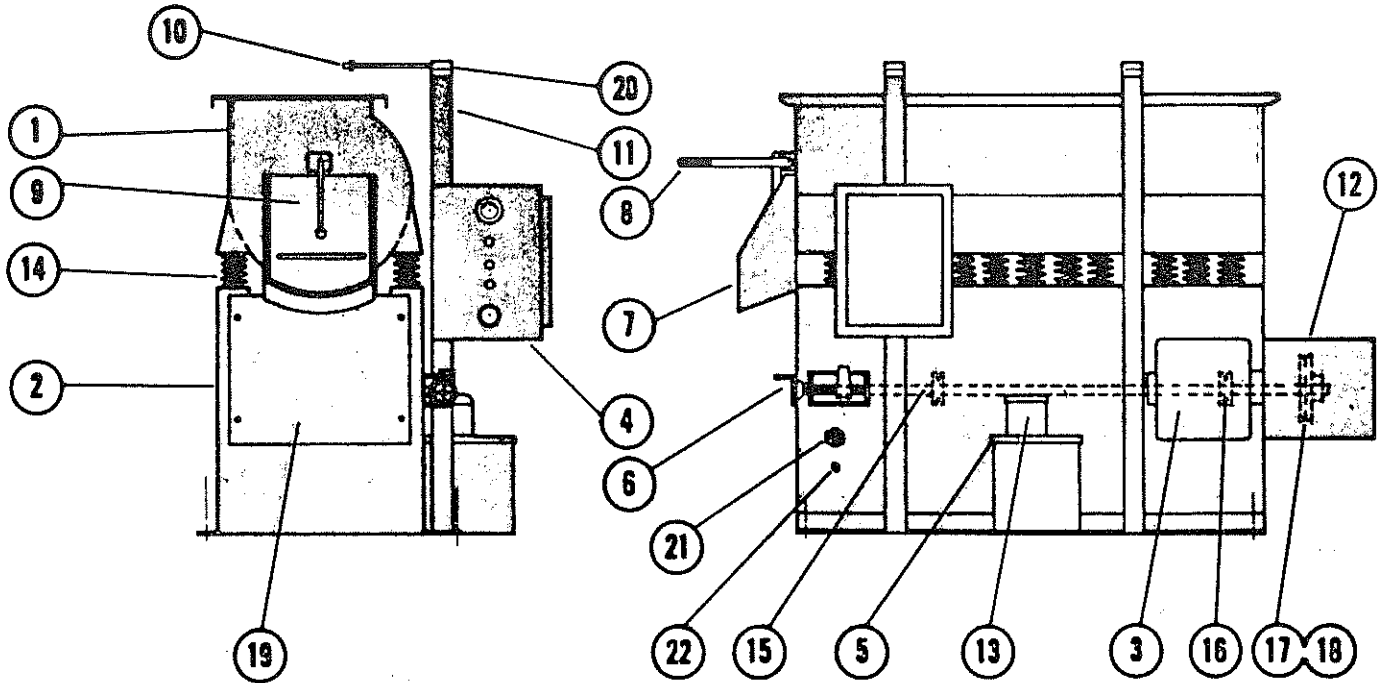
Inspect sheaves for rust and wear. Wipe clean of oil and grease. Dirty or rusty sheaves impair a drive's efficiency and damage the cover of the belts, often resulting in premature belt failure. Worn sheaves can shorten belt life by as much as 50%.

ALIGN SHEAVES

After proper operating tension has been applied to the V-belts, check to assure (1) parallel position of the sheave shafts, and (2) correct alignment of the sheave grooves. Both requirements can be checked by placing a straight edge or tight cord across the faces so that it touches all four points of contact on the sheave rims (see diagram). A misalignment of more than one half of one degree (one-eighth inch per foot of center distance) can adversely affect belt life by producing uneven wear on one side of the belt or by stretching or breaking the cords.



Proper installation and maintenance are vitally important to the operating efficiency and life span of a V-belt.



VIBRO FINISHER PARTS LIST

1.	DRUM	12.	DRIVE GUARD
2.	BASE	13.	COMPOUND PUMP
3.	MOTOR	14.	SPRINGS
4.	ELECTRIC CONTROL BOX	15.	RPM CONTROL SHAFT
5.	PUMP BOX LID	16.	SHAFT SUPPORT BEARING
6.	RPM CONTROL BRACKET	17.	PULLEY
7.	CHUTE	18.	DRIVE PULLEY (NOT SHOWN)
8.	HANDLE	19.	FRONT GUARD PANEL
9.	DOOR	20.	COMPOUND WATER BLOCKS
10.	COMPOUND WATER SPRAY	21.	WATER CONTROL VALVE
11.	WATER SPRAY SUPPORTS	22.	WATER CONNECTION



maintenance hints

PROTECTION OF PULLEYS:

IN ORDER TO PROLONG THE LIFE OF THE DRIVE PULLEYS, IT IS HIGHLY RECOMMENDED TO HAVE THE DRIVE GUARD ON THE MACHINE AT ALL TIMES OF OPERATION. THIS NOT ONLY PRESERVES THE PULLEYS FROM BECOMING COATED DUE TO WATER AND COMPOUNDS DRIPPING, BUT ALSO IS RECOMMENDED FOR SAFETY.

WATER AND COMPOUNDS DRIPPING ONTO THE PULLEY OR SHAFT, MAY CAUSE YOUR PULLEY TO BIND OR ETCH THE SHAFT, AND BECOME FIXED; THUS ELIMINATING THE VARIABLE SPEED FEATURE OF THE DRIVE.

THE VARIABLE SPEED HAND CONTROL WHEEL SHOULD BE TURNED ONCE A WEEK UP AND DOWN THE SPEED SCALE PERMITTING THE SHEAVES TO OPEN AND CLOSE. THIS SHOULD BE PERFORMED WHILE MACHINE IS IN OPERATION, NOT WHILE THE MACHINE IS SHUT DOWN. A DROP OF OIL ON THE PULLEYS ALSO INSURES FREE MOVEMENT.

LINING LIFE:

THE LINING LIFE OF THE VIBRO-FINISHER CAN BE INCREASED IF THE MEDIA ROTATION IS REVERSED OCCASIONALLY RATHER THAN RUNNING THE MEDIA AND PARTS IN ONE DIRECTION.

FLOW-THRU SYSTEM:

IN ORDER TO GET THE BEST RESULTS WITH THE FLOW-THRU SYSTEM, DRAINAGE SHOULD BE PERMITTED TO FLOW DOWN-HILL. IF DRAINAGE HAS TO FLOW UP-HILL, THIS WILL CAUSE BACKING UP OF WATER AND THUS THE PARTS WILL BECOME DIRTY.

IF SMALL GRANULAR MEDIA IS USED, OCCASIONALLY THE SMALL MEDIA MAY CLOG THE DRAIN HOSE. IF THIS HAPPENS, REMOVE THE HOSE COVER AND CLEAN OUT THE HOSE LINE.



CONDITIONS OF SALE

smico
corporation

FOUNDATIONS

Unless otherwise specified, Purchaser shall furnish and install necessary foundations, including foundation bolts, shall do such cutting and patching as may be required and shall assume all responsibility for the strength of the building and the supporting equipment.

LIABILITY FOR DELAYED SHIPMENT OR INSTALLATION

SMICO shall not be liable for any loss or damage resulting from delay in shipment, non performance or in installation caused by fires, floods, strikes, riots, thefts, or accidents, delays in transportation, including but not limited to inability to procure materials, or any other cause whatsoever for which the Company is not directly responsible. The Company shall not be liable, in any event, for loss of anticipated profits, loss by reason of plant shutdown, non-operation or increased expense of operation of other equipment, or other consequential loss or damage of any nature. If shipment or installation be delayed by or through Purchaser, final payment shall become due, 30 days after machinery is completed and ready for shipment unless otherwise negotiated.

LOSS, DAMAGE OR DESTRUCTION OF MACHINERY OR EQUIPMENT

From and after the delivery of the machinery or equipment covered by this order to a carrier for shipment to the Purchaser, said Purchaser shall be obligated to SMICO for the purchase price thereof; and the risk of damage, destruction or loss, in whole or in part, and from any cause or combination of events of said machinery or equipment shall be upon the Purchaser and shall not be the responsibility of SMICO after delivery to the carrier.

TAXES

This order does not include Federal, State or Local Sales, Use, Privilege, Occupation or Excise Taxes or other Taxes of any kind applicable to the sale of the machinery, equipment and/or services involved. These taxes shall be paid by the Purchaser either direct to the taxing authority or (if collected by SMICO) to SMICO upon receipt of the SMICO invoice for the amount of the tax. In lieu of such payment the Purchaser may provide SMICO with a tax exemption certificate acceptable to the taxing authority. In case of controversy as to whether this transaction is taxable, the Purchaser agrees to remit the amount of the tax to SMICO pending a specific ruling by the taxing authority which assesses or collects the tax. The purchaser agrees to accept such ruling as final, unless the Purchaser desires to contest the ruling at his own expense.

TECHNICAL ASSISTANCE FOR INSTALLATION OR STARTUP OPERATIONS

This order specifies that the responsibility for installation is borne by the Purchaser. If SMICO is designated by Purchaser, to furnish a qualified supervisor for the purpose of providing advisory and/or technical information to aid or expedite installation, it is herein agreed that a charge of \$100.00 per day, or any part thereof, as well as living and travel costs by methods chosen by SMICO, from its location to jobsite and return, shall be invoiced to and paid for by the Purchaser. The function of the supervisor, as designated by SMICO, is understood to be of an advisory capacity only and, neither SMICO nor individual designated by SMICO, shall be liable for loss, damage, or delay or any other consequential loss or damage of any nature.

MACHINERY AND EQUIPMENT WARRANTY

The machinery or equipment herein specified is warranted to the Purchaser to perform within the limits specified. If the machinery or equipment herein specified does not perform within the specified limits, written notice shall be given by the Purchaser to SMICO within thirty (30) days from its first use, stating wherein the machinery or equipment fails so to perform and a reasonable time shall be allowed SMICO to get to the machinery or equipment with skilled workmen and remedy the alleged defect. If alleged defect be of such a nature that a remedy cannot be suggested by letter, Purchaser agrees to render all necessary and friendly assistance in making the machinery or equipment satisfactory. In the event it is mutually agreed by Purchaser and SMICO that the machinery or equipment cannot be made to operate satisfactorily within the limits specified, Purchaser may return such of the machinery or equipment as is of SMICO manufacture to SMICO for full credit. SMICO will repair or replace with a similar part, f.o.b. its works where made, any part of its own manufacture in the above specified property which, within 6 months from shipment, proves defective in material or workmanship if the Purchaser delivers such defective part to the SMICO for inspection, f.o.b. its said works, within such year, provided said equipment has been installed and is operated by the Purchaser in accordance with generally approved practice and in accordance with manufacturers maintenance manual or instructions. However, SMICO will not be responsible for loss of anticipated profits, loss by reason of plant shutdown or any other consequential damages or any further loss by reason of the failure of the machinery or equipment to perform within the limits specified in the foregoing order and general conditions of sale or by reason of any defect in the machinery or equipment resulting from defective material or workmanship, and SMICO does not warrant that the machinery or equipment meets local, municipal, or state ordinances, laws or regulations. This warranty does not cover products, accessories, parts or attachments which are not manufactured by SMICO except to the extent of the warranty given by the actual manufacturer thereof.

CAPACITY — QUALITY WARRANTY

SMICO warrants that the equipment or parts involved is suitable for the purpose it is recommended, but since there are many variables beyond our control that contribute to the capacities and quality, the minimum and maximum performance limits cannot realistically be set. Warranty does not cover any defects developed by misuse.

IMPROVEMENTS — MODEL CHANGES

SMICO reserves the right to make improvements or changes from time to time on the kind of goods covered by this agreement without obligation to the Purchaser to install such changes on the goods purchased hereunder. We are not responsible for warranties or agreements made by our dealers, agents, or representatives.

RETURNED GOODS:

Goods are not to be returned until Purchaser has received SMICO'S written permission to do so. Goods returned through no fault of SMICO will be subject to a charge in addition to whatever restocking expense will be necessary to restore the material to a saleable condition. Transportation charges on returned goods must be prepaid by the Purchaser. No request for return of goods will be considered unless received by SMICO within thirty (30) days after completion of installation.

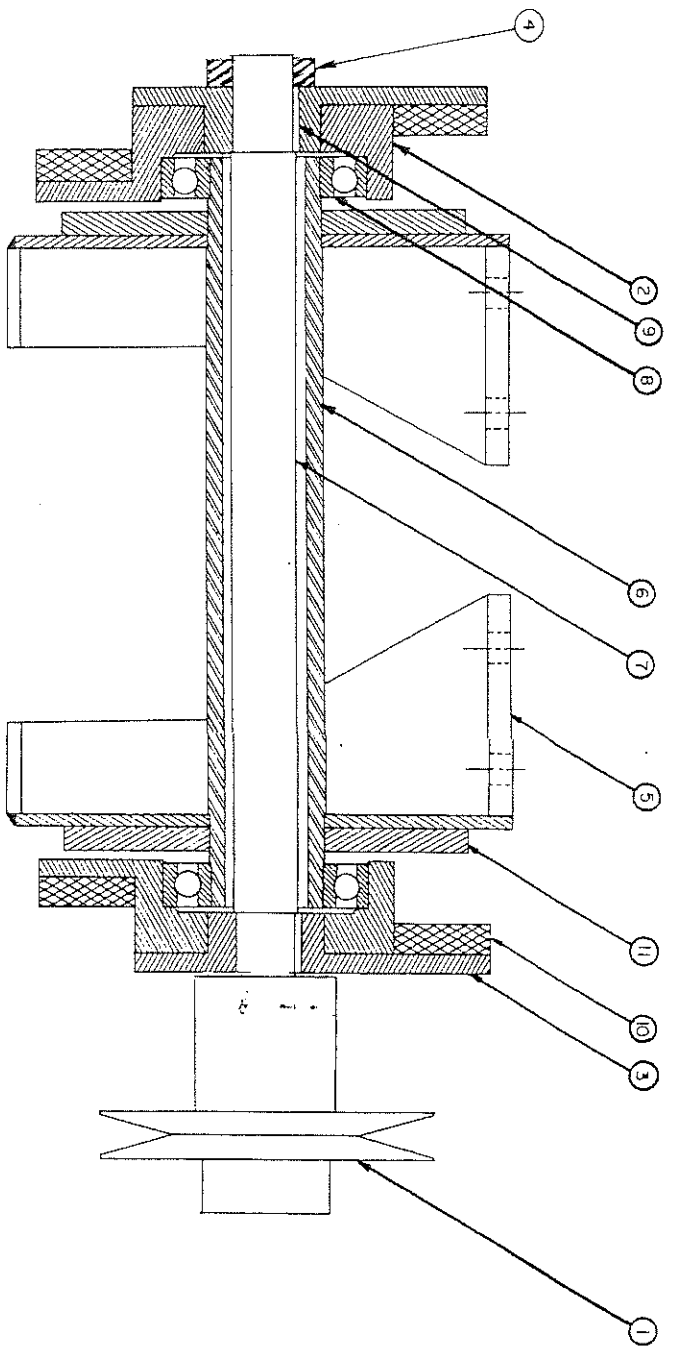
PROPERTY TITLE:

The title to and right of possession of the property above specified shall remain in the Company SMICO until payment in full of the purchase price hereinbefore stated in cash, including deferred payments and interest, whether evidenced by notes, renewals or otherwise, has been made to SMICO. Until such payment, said property shall remain the personal property of SMICO whatever may be the mode of its attachment to realty, or otherwise. SMICO may enter any premises for purposes of removal.


ACCEPTANCE

In the event that Purchase Orders or conditions of purchase conflict in any manner, in whole or in part, with the foregoing conditions of sale, it is agreed that the conditions of sale herein written shall be binding. All previous negotiations, conversations and understandings are merged herein and this Proposal cannot hereafter be modified except by an amendment in writing submitted by the Purchaser and accepted by an officer of SMICO in behalf of SMICO.

DATE	SYM	REVISION RECORD	BY
4-26-59	A	ITEM 9 WAS BEING 1 1/2 CU WAS PN 15102MFL CO ITEM PARTS 15445-300 WAS PARTS 15445-300	JZZ



ITEM	DESCRIPTION	PART NO. 1 1/2 cu	PART NO. 3 cu
1	SHEAVE	6-1 M	7-1 M
2	ECC. WHEEL	VK-11-7R(L)	VK-11-7R(L)
3	ECC. RING	VK-10-6R(L)	VK-10-6R(L)
4	SET COLLAR	15157-1W	5157-1W
5	VIB. BRACKET MT.	15104-1W	15104-1W
6	SHAFT HOUSING	15105-2W	15103-2W
7	SHAFT	15105-1W	15103-1W
8	BEARING	K-4	K-4
9	KEY	1/4 x 1/4	1/4 x 1/4
10	COUNTERWEIGHT	NR	15158-1W
11	VIB. BRACKET	15b43	15b43


smico
 CORPORATION
 OKLAHOMA CITY, OKLAHOMA

NAME: 1 1/2 3 CU. FT. DRIVE
 DRAWN BY: GM DATE: 11/27/72
 CHECKED BY: DATE: APPROVED BY:

SHT. NO. 1 OF 1 SHTS. PART NO. 200 SCALE: HALF
 DRAWING NO. 15156