

D Series Clamp Mount Mixers

OWNERSMANUAL

Warranty

Our products are guaranteed against defective materials and workmanship, we will repair or replace such items as may prove defective at our option. Warranty period is one year on items manufactured by INDCO, except for the MixMaster Series Shakers which carries a two year warranty. On items not manufactured by INDCO, the manufactures warranty applies. All component parts of our products are covered by this warranty, except for normal wear items such as belts or impellers. We cannot be responsible for damage or abuse to equipment caused by improper installation or operation. Warranties can also be voided by unauthorized disassembly of equipment. For warranty repairs, equipment is returned to INDCO at the customer's expense; we will repair and return to customer at our expense. Under no circumstances will we allow labor charges or other expense to repair defective merchandise. This warranty is exclusive and is in lieu of all other warranties, whether express or implied. INDCO shall not be liable for any other damages, whether consequential, indirect, or incidental, arising from the sale or use of its products.



D Series Mixers

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D Series Clamp Mount Portable Mixers

Safety

Please follow the below safety precautions. If there are any questions, please call INDCO at 800-942-4383.

Please read this complete manual before trying to operate your mixer. Failure to follow these instructions could result in serious bodily injury or death.

- Do not touch moving parts while mixer is operating. Do not wear loose-fitting clothes or jewelry around an operating mixer. Keep all hands, feet, clothes, neckties, necklaces and other objects clear of moving parts.
- Never move the unit without a suitable lifting device.
- Have a qualified individual bring power to your unit.
- Always ground the unit. Never use an extension cord.
- Never run the unit in open air.
- Never adjust the speed without the unit running.
- Always lockout the power when working on the unit.

Electric Motor Safety:

Motors should be installed, protected and fused in accordance with latest issue of National Electrical Code, NEMA Standard Publication No. MG 2 and local codes.

Frames and accessories of motors should be grounded in accordance with National Electrical Code (NEC) Article 430. For general information on grounding refer to NEC Article 250.

Not all rotating parts are guarded. Keep hands and clothing away from moving parts.

Trained, qualified personnel should make electrical repairs and non-standard connections.

If environment has hazardous combustible fumes present, use only explosion-proof electric motors.

Air Motor Safety:

The air motor is designed to be driven by compressed air and under no circumstances be driven with any other gases. Fluids, particles, solids or any substance mixed with air, particularly combustible substances likely to cause explosions, must not drive air motor.

- Do not drive with flammable or explosive gases or operate unit in an atmosphere containing them.
- Air motor is designed for air only. Do not allow corrosive gases or particulate material to enter motor. Water vapor, oil-based contaminants, or other liquids must be filtered out.
- Do not use a hammer or force coupling or drive pulley onto shaft when installing drive onto air motor. This causes end thrust that could damage air motor.
- Ambient temperature should not exceed 250°F.
- Beware of any exposed and/or movable parts. Proper guards should be in place to prevent personal and/or property damage.

Air Motor Safety: (continued)

- Solid or liquid material exiting unit can cause eye or skin damage. Keep away from air stream.
- Always disconnect air supply before servicing.
- Do not allow air motor to “run free” at high speeds with no loads. Excessive internal heat build-up, loss of internal clearances and rapid motor damage will result.
- Some models may exceed 85dB(A) sound level. Hearing protection should be worn when in close proximity to these models.

General

INDCO heavy-duty clamp mount mixers are engineered for mixing large volumes of light and medium materials or small batches of heavy materials. The heavy-duty clamp mount allows 90° vertical and 360° horizontal adjustments for the most efficient mixing position. Clamp and motor mount are cast of aluminum for high strength and they are lightweight. Our double “C” Clamp mount is standard on models D-22V and D-33V. Propellers and shafts are stainless steel. TEFC, Explosion-Proof and Air motors are standard.

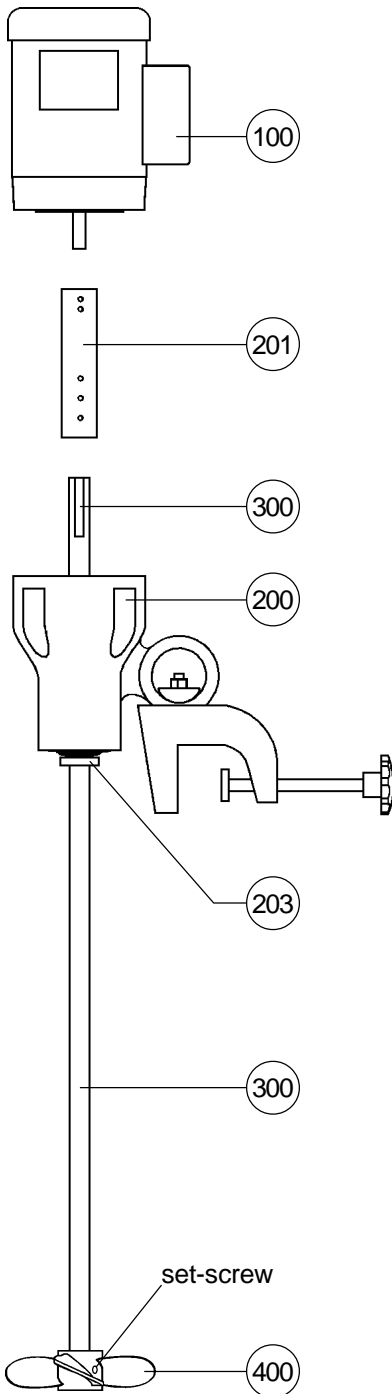
Heavy Duty Direct Drive - D Series

- Standard electric models have output speed of 1750RPM.
- Variable speed electric motors run from 35 to 1750RPM.
- Air models run from 300 to 3000RPM.

Receiving

Before removing any packing, visually inspect the exterior of the shipment for any sign of damage. Should there be any damage, bring it to the attention of the delivering UPS or truck line and note the same on the receiving ticket. Should there be damage you must place a claim with the truck line. *They are the only ones who will pay for the damage done and you are the only one who can place that claim.*

Installation, (continued)



Instructions:

Your new mixer requires some assembly. Ensure ALL set-screws and fasteners on the unit have been tightened completely before operating the equipment.

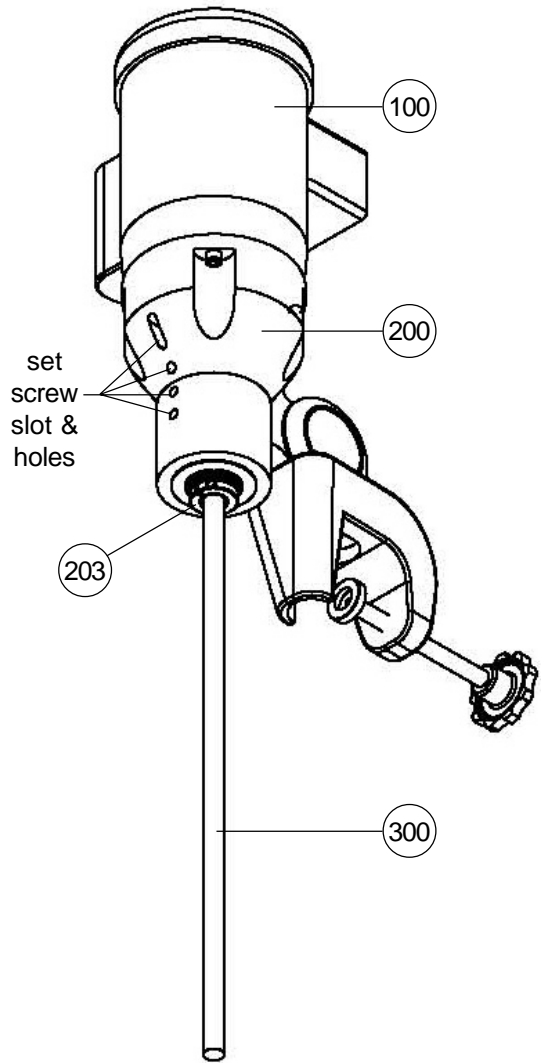
- ONE -
Slide the Shaft (300) into the Bearing (203).

- TWO -
Continue sliding Shaft (300) through the Bearing (203) and into the Coupler (201).

- THREE -
Align the "FLAT" on the Shaft (300) with the Set-Screws in the Coupler (201). Access through the slot & 3-holes in Bearing Housing (200). Ensure ALL Set-Screws are tight.

- FOUR -
Tighten fastener on the Bearing locking collar (203).

- FIVE -
Install impellers (400). Back off the Set Screws (401) as far as possible without removing them. Insert Shaft (300) into the bore and tighten the Set-Screws (401) firmly.



General Impeller Placement:

For mixers with ONE impeller, mount it 1 to 2 impeller diameters distance off the bottom of mixing container.

For mixers with TWO or more impellers, mount the lowest impeller 1 to 2 impeller diameters distance off the bottom of mixing container. Mount the other impellers 1 to 2 impeller diameters apart. The uppermost impeller should be positioned approximately 1 impeller diameter under the surface of the liquid.

The above guide-lines are "rules of thumb" and may not be the best for your situation. Experimenting with impeller placement may provide your best results.

Installation, (continued)

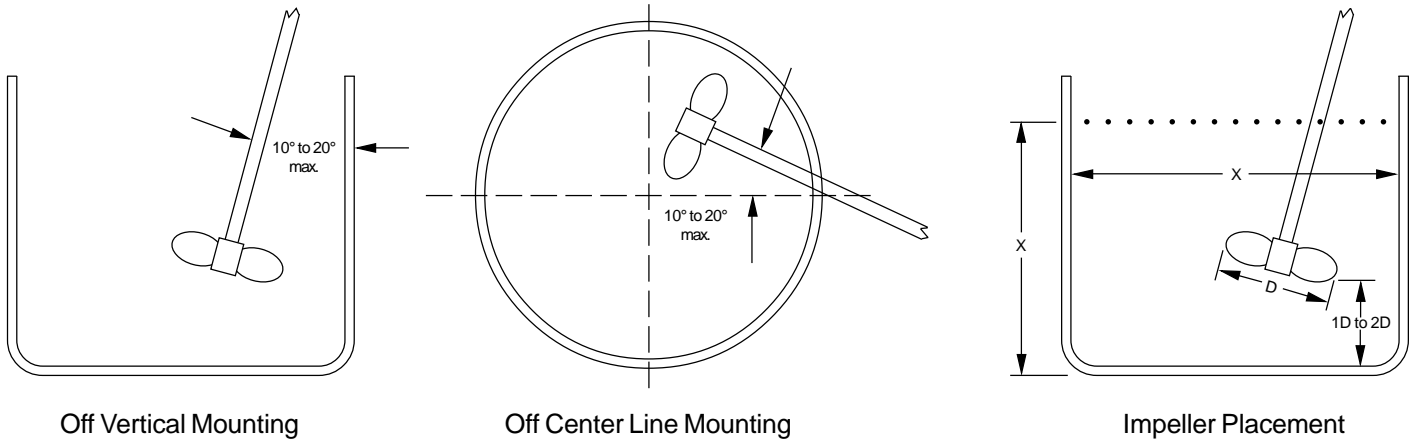
Clamp Mount

After assembling the mixer, lower mixer into the container and lock in place with clamp assembly. Ensure the clamp is level, square, and plumb when mounted to the mixing tank. Ensure there is adequate space around the unit for cleaning, inspection and maintenance.

NOTE:

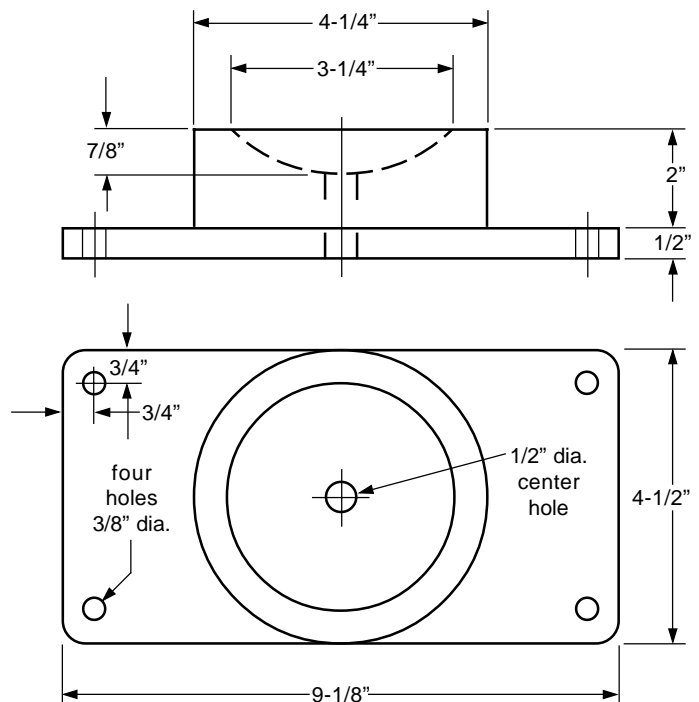
- Do not use a pipe wrench or any other tool to assist in tightening the hand knob(s).
- Over tightening will break the C-clamp.
- The clamp is designed to hold the mixer securely in place using hand tightness only.
- Use of tools to tighten hand knob will void the warranty.

Illustrations below show the ideal operating angles for portable clamp-mount mixers. The mixing shaft should be 10° to 20° off vertical and 10° to 20° off tank center line.



Cup Mount

The D Series Mixers have an OPTIONAL cup mounting pad assembly which replaces the standard C-Clamp mounting configuration. It is cast from 319L aluminum and the part number is C-DG-4.



Operation

Electric Power: Once the electric motor has been wired, check rotation to be sure the mixer shaft is rotating in a clock-wise direction, looking downward into the container.

Air Power: Check to ensure the air valve is in the closed position, then connect air supply. Check rotation to be sure the mixer shaft is rotating in a clock-wise direction, looking downward into the container.

Once the mixer is in the container, it is now safe to operate. Always start and stop mixer in slowest speed.

CAUTION:

- ✓ ***Never run mixer without a propeller.***
- ✓ ***Never run the propeller in open air.***
- ✓ ***Never run propeller outside a container.***

Maintenance

Maintaining your mixer is not difficult if you follow these guidelines:

- Keep the mixer clean.
- Check all wiring on a regular basis and repair as needed.
- Air motor powered units:
 - See Air Motor Data section.

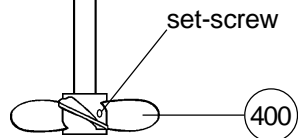
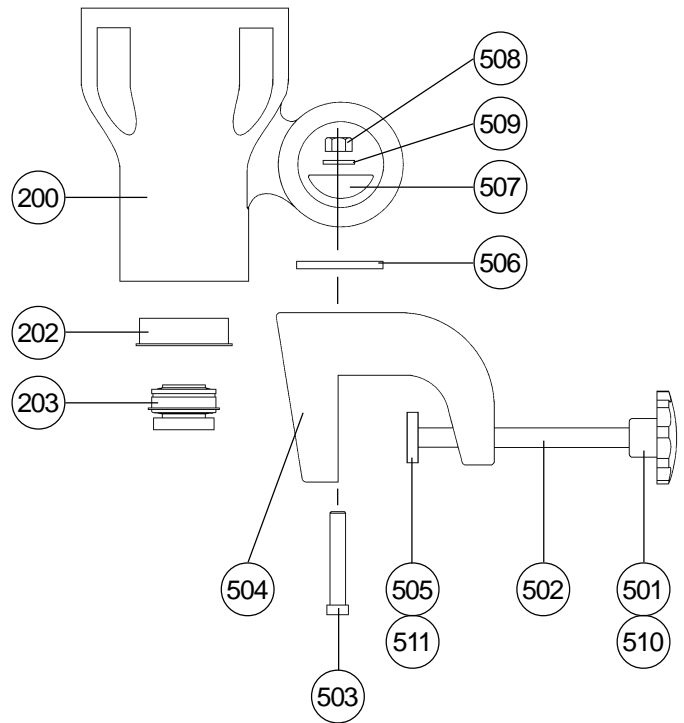
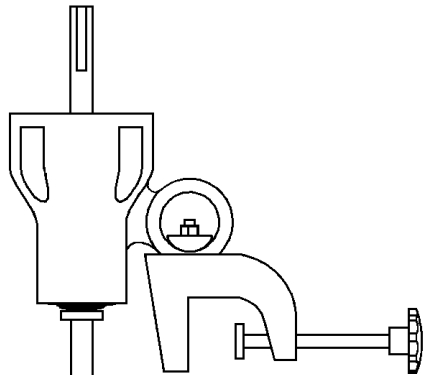
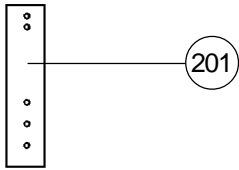
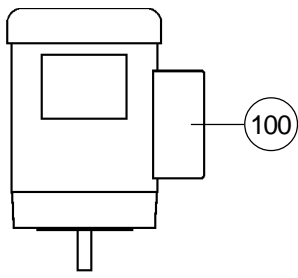
Parts List - Drive Motors

Item 100	Part No.	Description				
Air Motors	3/4 HP	MTR-3/4-56C-AIR N-K510 HDW-1/4-VALVE HDW-2502-SNB N-AL445 N-AC980	56C Mount - 3/4 HP (2AM-NRV-90) bi-rotational Repair Kit* (2AM-NRV-90) Needle valve, brass - 1/4" Pipe nipple, steel - 1/4" X 2" Muffler, plastic Muffler, metal			
		1.5 HP	MTR-1.5-56C-AIR N-K206A HDW-1/4-VALVE HDW-25-CNG N-AL445 N-AC980	56C Mount - 1.5 HP (4AM-NRV-50C) bi-rotational Repair Kit* (4AM-NRV-50C) Needle valve, brass - 1/4" Pipe nipple, steel - 1/4" X 7/8" Muffler, plastic Muffler, metal		
			4 HP	MTR-4-56C-AIR N-K208 HDW-1/2-VALVE HDW-50-CNG N-AC990	56C Mount - 4 HP (6AM-NRV-11A) bi-rotational Repair Kit* (6AM-NRV-11A) Needle valve, brass - 1/2" Pipe nipple, steel - 1/2" X 1-1/8" Muffler, metal * Repair Kits include: Vanes, shaft seal, o-rings, DE & NDE bearings, body & end cap gaskets.	
				Electric Motors	1/4 HP	MTR-1/4-56C-1-EP MTR-1/4-56C-1-TEFC CPG-INLINE-18/3
		1/3 HP	MTR-1/3-56C-1-EP MTR-1/3-56C-1-TEFC CPG-INLINE-18/3 MTR-098004 MTR-DC-CONTROL CPG-18/3 MET-VSO-BRACKET			56C, fixed speed 1/3 HP Explosion-Proof 115/230VAC 1-phase 56C, fixed speed 1/3 HP TEFC 115/230VAC 1-phase Cord 18/3 - 6', plug and in-line ON-OFF switch 56C, variable speed 1/3 HP TEFC 115VAC to 90VDC 1-phase DC motor controller, variable speed - 1/3 thru 2HP Cord 18/3 - 6' with plug Angle brackets, mounts v.s. controller to motor (2 req'd)
			1/2 HP			MTR-1/2-56C-1-EP MTR-1/2-56C-1-TEFC CPG-INLINE-18/3 MTR-098000 MTR-DC-CONTROL CPG-18/3 MET-VSO-BRACKET

Parts List - Drive Motors (continued)

Item 100	Part No.	Description				
Electric Motors	3/4 HP	MTR-3/4-56C-1-EP	56C, fixed speed	3/4 HP Explosion-Proof	115/230VAC	1-phase
		MTR-3/4-56C-1-TEFC	56C, fixed speed	3/4 HP TEFC	115/230VAC	1-phase
		CPG-14/3	Cord 14/3 - 5' with plug			
		SWT-TOGGLE	ON - OFF switch			
		SWT-GUARD	Switch guard			
		MTR-108018	56C, variable speed	3/4 HP TEFC	115VAC to 90VDC	1-phase
		MTR-DC-CONTROL	DC motor controller, variable speed - 1/3 thru 2HP			
		CPG-14/3	Cord 14/3 - 5' with plug			
	MET-VSO-BRACKET	Angle brackets, mounts v.s. controller to motor (2 req'd)				
	1 HP	MTR-1-56C-1-EP	56C, fixed speed	1 HP Explosion-Proof	115/230VAC	1-phase
		MTR-1-56C-1-TEFC	56C, fixed speed	1 HP TEFC	115/230VAC	1-phase
		CPG-14/3	Cord 14/3 - 5' with plug			
		SWT-DP-TOGGLE	ON - OFF switch			
		SWT-GUARD	Switch guard			
		MTR-108022	56C, variable speed	1 HP TEFC	115VAC to 90VDC	1-phase
		MTR-DC-CONTROL	DC motor controller, variable speed - 1/3 thru 2HP			
		CPG-14/3	Cord 14/3 - 5' with plug			
	MET-VSO-BRACKET	Angle brackets, mounts v.s. controller to motor (2 req'd)				
	1.5 HP	MTR-1.5-56C-1-EP	56C, fixed speed	1.5 HP Explosion-Proof	115/230VAC	1-phase
		MTR-1.5-56C-1-TEFC	56C, fixed speed	1.5 HP TEFC	115/230VAC	1-phase
CPG-14/3		Cord 14/3 - 5' with plug				
SWT-DP-TOGGLE		ON - OFF switch				
SWT-GUARD		Switch guard				
MTR-108092		56C, variable speed	1.5 HP TEFC	230VAC to 180VDC	1-phase	
MTR-DC-CONTROL		DC motor controller, variable speed - 1/3 thru 2HP				
CRD-CORD		Cord 12/3 - 4' no plug				
MET-VSO-BRACKET	Angle brackets, mounts v.s. controller to motor (2 req'd)					
2 HP	MTR-2-56C-3-EP	56C, fixed speed	2 HP Explosion-Proof	230/460VAC	3-phase	
	MTR-2-56C-3-TEFC	56C, fixed speed	2 HP TEFC	230/460VAC	3-phase	
	MTR-128001	145TC, variable speed	2 HP TEFC	230VAC to 180VDC	1-phase	
	MTR-DC-CONTROL	DC motor controller, variable speed - 1/3 thru 2HP				
	CRD-CORD	Cord 12/3 - 4' no plug				
	MET-VSO-BRACKET	Angle brackets, mounts v.s. controller to motor (2 req'd)				
3 HP	MTR-3-140TC-3-EP	140TC, fixed speed	3 HP Explosion-Proof	230/460VAC	3-phase	
	MTR-3-56C-3-TEFC	56C, fixed speed	3 HP TEFC	230/460VAC	3-phase	
	MTR-108502	145TC, variable speed	3 HP TEFC	230VAC to 180VDC	1-phase	
	MTR-DC-CONTROL-3HP	DC motor controller, variable speed - 3HP				
	CRD-CORD	Cord 12/3 - 4' no plug				
	MET-VSO-BRACKET	Angle brackets, mounts v.s. controller to motor (2 req'd)				

Parts List - D Series Mixer



Parts List - D Series Mixer

Item	Description	Part No.	Qty.
100.	Motor, air	see 'Parts List - Drive Motors'	1
100.	Motor, electric	see 'Parts List - Drive Motors'	1
101.	Motor mount bolt, 3/8"-16 x 1-1/4" - zinc plated	N-HARDWARE	4
102.	Lockwasher, 3/8" - zinc plated	N-HARDWARE	4
200.	Bearing Housing , cast aluminum	HDW-DH9	1
	Mixers built before 7/6/2004: (obsolete)		
201.	Coupler, 5/8" -in- x 3/4" -out- (not shown)	CPL-HD9-C	1
201.	Coupler, 7/8" -in- x 3/4" -out- (D-22V & D-33V only) (not shown)	CPL-HD9-C (with 7/8" bore)	1
202.	Sealmaster bearing with collar	HDW-ER20T	1
	Mixers built 7/6/2004 and after: (current)		
201.	Coupler, 5/8" -in- x 3/4" -out-	CPL-6275	1
201.	Coupler, 7/8" -in- x 3/4" -out-	CPL-7587	1
202.	Adapter, bearing to housing	HDW-D-BA	1
203.	Sealmaster bearing with collar	HDW-ER12T	1
300.	Shaft - impeller, 3/4" dia. x 40" long - stainless	N-SHF-7540	1
300.	Shaft - impeller, 3/4" dia. x 52" long - stainless	N-SHF-7552	1
300.	Shaft - impeller, 3/4" dia. x 64" long - stainless	N-SHF-7564	1
400.	Impellers	specify model	1~2
401.	Set screw	specify model	2~4
	Single "C" Clamp Assembly:		
500.	Single C-Clamp Ass'y <u>Complete</u> , consisting of:	N-CLPA-D	1
501.	Hand knob - cast aluminum	HDW-HK42	1
502.	Threaded rod, 5/8" x 7-1/2" long - zinc plated	SHF-TR6275	1
503.	Square Head Bolt, 1/2"-13 x 3" - zinc plated	N-HARDWARE	1
504.	Single C-Clamp - cast aluminum	CLP-HDC	1
505.	Swivel Pad - steel	HDW-CSP-1	1
506.	Cushion - rubber	N-CLP-RCUP	1
507.	Washer, spherical - cast aluminum	WSH-S	1
508.	Nut, 1/2"-13 - zinc plated	N-HARDWARE	1
509.	Lock Washer, 1/2" - zinc plated	N-HARDWARE	1
510.	Spring pin, 3/16" x 1-1/4"	N-HARDWARE	1
511.	Drive screw pin, #14 x 3/4" - zinc plated	N-HARDWARE	1
	Double "C" Clamp Assembly: (D-22V & D-33V only)		
500.	Double C-Clamp Ass'y <u>Complete</u> , consisting of:	N-CLPA-VS	1
501.	Hand knob - cast aluminum	HDW-HK42	2
502.	Threaded rod, 5/8" x 7-1/2" long - zinc plated	SHF-TR6275	2
503.	Square Head Bolt, 1/2"-13 x 3" - zinc plated	N-HARDWARE	1
504.	Double C-Clamp - cast aluminum	CLP-VS	1
505.	Swivel Pad - steel	HDW-CSP-1	2
506.	Cushion - rubber	N-CLP-RCUP	1
507.	Washer, spherical - cast aluminum	WSH-S	1
508.	Nut, 1/2"-13 - zinc plated	N-HARDWARE	1
509.	Lock Washer, 1/2" - zinc plated	N-HARDWARE	1
510.	Spring pin, 3/16" x 1-1/4"	N-HARDWARE	2
511.	Drive screw pin, #14 x 3/4" - zinc plated	N-HARDWARE	2