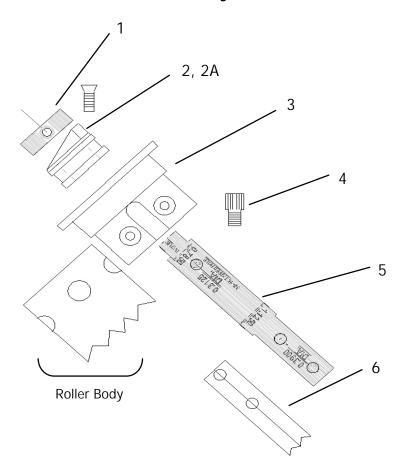
Hinge-Less Front Roller Assembly and Install Instructions



Item	Part #	Description	Quantity Included
	LL 300-301	Hinge-Less Front Roller	
1	LL 300-301-001	Support Collar	2
2	LL 300-301-002RH	Right Hand Cam	1
2A	LL 300-301-002LH	Left Hand Cam	1
3	LL 300-301-003	Cam Housing	2
4	LL 300-301-004	Cam Follower	1
5	LL 300-301-005	Shaft	2
6	LL 300-301-006	Connecting Angle Iron	2

Note: Before assembling, take note that there are two cam housings that will replace your existing hinges. One marked "odd" and the other "even" representing which machine it will be installed in. There is a left hand cam in one section and a right hand in the other. Lane one is an odd machine so the cam housing marked "odd" will go to the ball exit side of that machine. Lane two is an even machine so the cam housing marked "even" will go to the ball exit side of that machine.

Whichever machine the roller is installed in, the cam follower bolt should be screwed into the shaft on the ball exit side. It makes no difference which side of "that" shaft the cam follower is screwed into.

Assembly Instruction

Step 1 - Start with either side by sliding one of the cam housings' over one of the shaft ends. Before sliding it on apply a *small* amount of "petroleum jelly" to the inside section of one of the cams. Take note that there are two grooves machined within the cam. Fill in the two grooved areas to the top with petroleum jelly (not grease). Use the enclose wooden craft stick to squeegee the lubricant neat and clean so that the grooves are topped off and level with the rest of the cam. Also apply a small amount of petroleum jelly across the ridges of the cam where the cam follower rides on. Wipe off excess lubricant.

Note: The reason for that type of lubricant is to create a self lubricating/maintenance free part. The cam itself has a lubricant in it as well. As the roller operates, if it needs more lubrication the petroleum jelly will thin out enough from heat build up and self apply onto the sections of shaft preventing premature wear and controlling heat. As the roller goes around, the grooved section of the cam will contain the lubrication, moving it back and forth with the roller. This system will always keep the shaft thinly lubricated and moist.

- **Step 2** Before installing your roller bodies, wipe off any debris from the inside of them, loose debris can get into the cam and cause premature wear. Slide the roller bodies onto the first cam housing as you would with a standard roller and screw in the six roller body screws that you would normally use. Don't tighten them down yet, only screw them in half way.
- **Step 3 -** Repeat step one and two for the opposite side of the roller. Stand the roller up to slide the second cam housing on it's easier that way and don't forget the lubrication.
- **Step 4 -** Tighten the screws in the following sequence to make sure that the ends are squared off properly. Start on one side of the roller and leave the center screw on each roller body half-tight for last. Tighten down the four end screws first (two for each section of the roller body), tighten them down and then back about a 1/2 turn one at a time. Then tighten them all the way down and screw in the center bolts. Repeat this sequence on the other side of the roller and file down the corner of the screws as you would with any other roller.
- **Step 5 -** The inside shaft should be able to slide back and forth freely at this point. Wipe off any smeared grease from the shafts and screw in the cam follower bolt onto the side that will be facing the ball exit. Slide on and tighten the support collars to both ends and you're done.
- **Step 6** When you put the roller into the machine (before releasing the pinned back bearing supports) slide the carpet itself to the far side of the machine away from the ball exit. Also slide the roller body to the far end of the machine away from the ball exit. Then unpin the bearing supports. This way when you turn the machine on, the carpet will drift toward the exit and begin actuating. The purpose of pushing everything to the far end first is to prevent the carpet from tucking under the spring of the bearing support on the ball return side when the supports are unpinned.

Note: When you put the roller in the machine, position the bolts of the support collars so that the head of the bolt rests against the top section of the bearing support. This will prevent it from turning which could slide out a loose rubber insert.

Note: Your new roller will progressively become quieter as the new cams wear in.

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