

441 DOOR CLOSER INSTALLATION INSTRUCTIONS

Model: 441BC Size 1-6

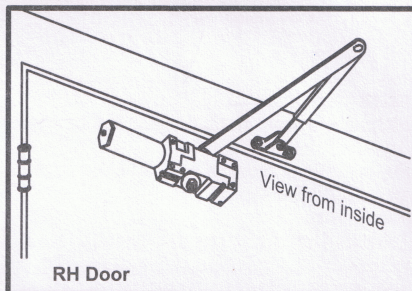
DOOR CLOSER FEATURES

- Surface mounted
- Adjustable power range from 1 to 6 (factory preset to 3).
- Adjustable speed control
- Adjustable backcheck
- Adjustable for Barrier free applications.

INSTALLATION REQUIREMENTS

- Door must be hung on ball bearing or antifriction hinges.
- Door and frame must be properly reinforced at the door closer mounting areas.
- For non-labeled wood doors pre-drill and use wood screws.
- For steel reinforced hollow metal doors, drill and tap for the appropriate machine screws.
- For non-reinforced hollow metal doors and labeled wood doors, drill and use sex-nut bolts.
- For steel frames drill and tap for the appropriate machine screws.
- For optional drop plates, hold open function, cushion rigid arm installation see separate installation instructions.
- Door closer should not be installed on an exterior side of a door or door frame surface.

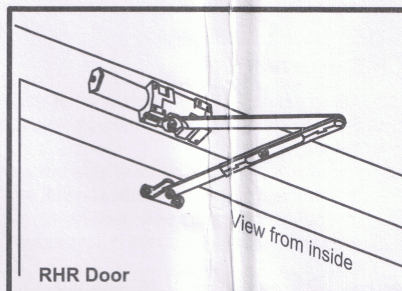
INSTALLATION TYPE



RH Door

Regular Arm (Pull Side)

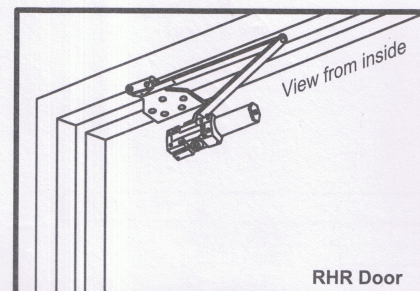
Permits 120° maximum opening.
See Page 2.



RHR Door

Top Jamb (Push Side)

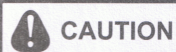
Permits 120° maximum opening.
See Page 3.



RHR Door

Parallel Arm (Push Side)

Permits 180° maximum opening.
See Page 4.

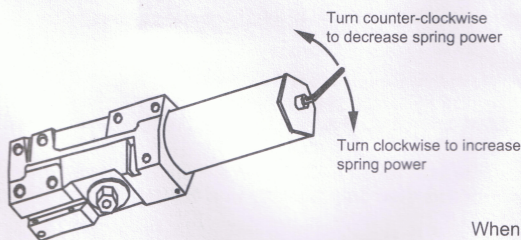


CAUTION

IMPROPER INSTALLATION OR REGULATION MAY RESULT IN PERSONAL INJURY OR PROPERTY DAMAGE. FOLLOW ALL INSTRUCTIONS CAREFULLY.

GENERAL NOTES

- Closer is non-handed and designed to meet entrance accessibility requirements.
- Before installation, determine hand of the door and door closer size depending on door size.
- Turn the spring adjustment screw clockwise or counter-clockwise the required number of turns to match door width as indicated in chart.

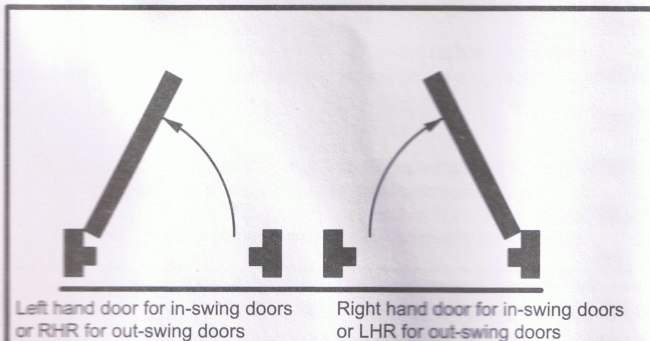


When adjusting spring power, DO NOT use excessive force on the adjustment screw when screw is at the minimum or maximum screw adjustment positions.

MAXIMUM DOOR WIDTH

Exterior doors	Interior doors	Full turns required	Spring Power Rating
—		-5 TURNS CCW	1
8.5 lb-f	36" (910)	-3 TURNS CCW	2
30" (760)	42" (1070)	-0 TURNS CCW	3
36" (910)	48" (1220)	3 TURNS CW	4
42" (1070)	54" (1370)	6 TURNS CW	5
48" (1220)	60" (1524)	9 TURNS CW	6

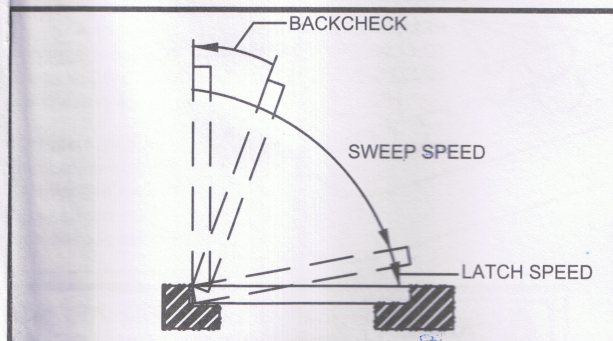
DOOR HANDING



Left hand door for in-swing doors
or RHR for out-swing doors

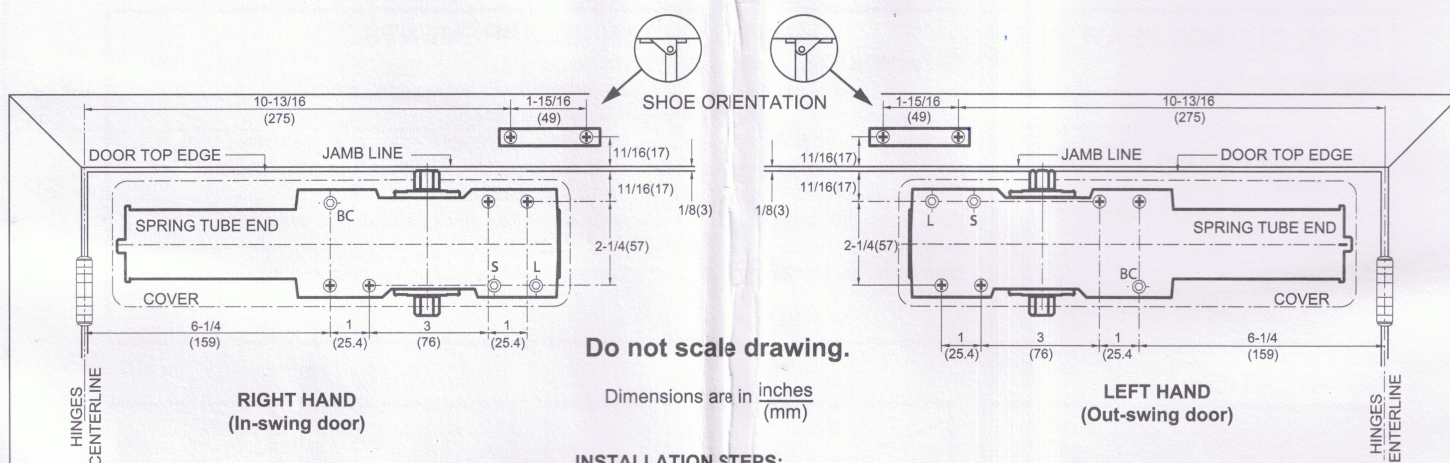
Right hand door for in-swing doors
or LHR for out-swing doors

OPENING AND CLOSING CONTROL



REGULAR ARM (PULL SIDE)

INSTALLATION DIMENSIONS FOR 120° DOOR OPENING



Do not scale drawing.

INSTALLATION STEPS:

- Adjust spring power to match door size as indicated in chart on page 1.
- Prepare mounting holes and mount closer on door to dimensions shown with spring tube-end on hinges side.
 - For wood or sheet metal screws installation pre-drill 3/16" (4.5 mm) diameter holes.
 - For machine screws installation drill and tap for 1/4 -20 UNC thread.
 - For fire rated doors use machine screws or through-bolts.
- Prepare mounting holes and mount forearm arm shoe onto the frame top jamb to shown dimension.
 - For wood or sheet metal screws installation pre-drill 3/16" (4.5 mm) diameter holes.
 - For machine screws installation drill and tap for 1/4 -20 UNC thread.
- Remove link/shoe from forearm and attach main arm to door closer top shaft as shown.
- Attach forearm link shoe to frame top jamb at shown orientation.
- Open door and insert forearm link into forearm, close door, rotate main arm and adjust the forearm link length until the forearm is 90° to the frame top jamb surface (door closer spring pre-loading). Secure forearm link firmly to forearm with forearm screw using wrench tool.
- Adjust door closing and latching speed and backcheck as required as per speed control instructions below.
- Prepare door closer cover with cover inserts at the appropriate locations according to the door closer orientation and attach to door closer with supplied screws.

DOOR CLOSER ADJUSTMENTS

CLOSING SPEED CYCLE

The door closer closing speed is controlled by two different speed control valves: SWEEP speed control valve and LATCH speed control valve.

- To adjust SWEEP speed, turn the closing sweep speed control valve counterclockwise (CCW) for faster speed and clockwise (CW) for a slower speed.
- To adjust the LATCH speed, turn the latching speed control valve counterclockwise (CCW) for faster speed and clockwise (CW) for a slower speed.

BACKCHECK CONTROL

The backcheck is used to cushion the door opening, after about 75° opening. To adjust BACKCHECK, turn the backcheck control valve counter-clockwise (CCW) for a softer cushion and clockwise (CW) for a harder cushion.

CAUTION Do not attempt to completely remove or unscrew any of the control valves, as the valves (screws) may become dislodged from the door closer body, resulting in loss of internal fluid and failure of the device.

DOOR STOP

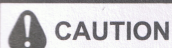
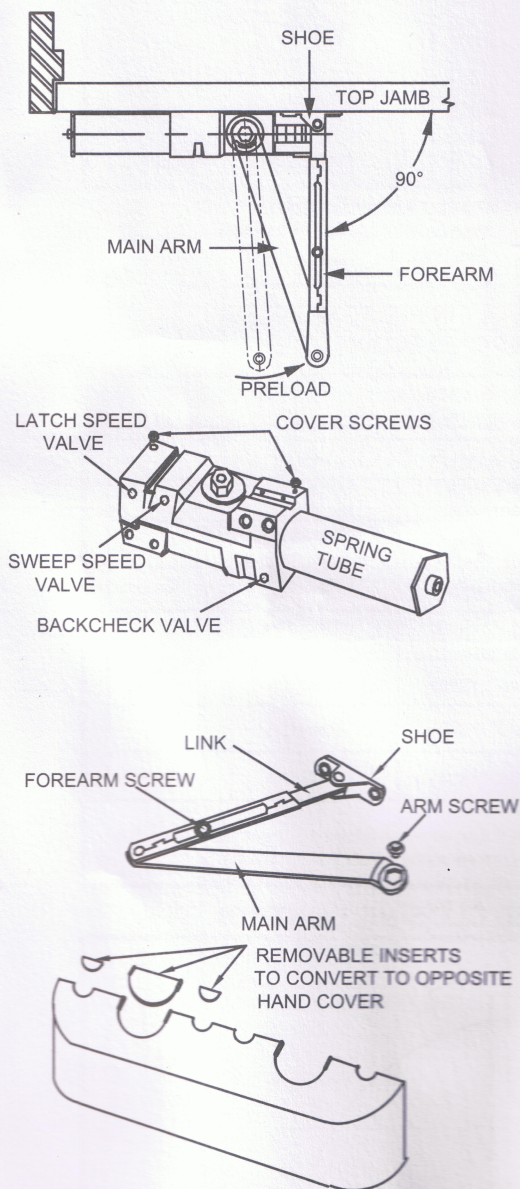
If a door stop is required, use an exterior floor or wall stop. Do not use the backcheck function as a door stop

SPRING POWER CONTROL

- Door closer is provided with an adjustable spring force to compensate for different door sizes and weights.
- Door closer power has been factory set to size 3.
- To adjust spring force, turn power spring screw clockwise to increase power or counter-clockwise to decrease power.

BARRIER FREE ADJUSTMENT

- Barrier free requirements can be met by decreasing the spring power to size 1.
- According to ADA requirements, the door opening force has to be maximum 5 lbs.
- Barrier free adjustment cannot be applied in "Fire Labeled" doors.
- Barrier free door closer adjustment is not recommended for use on outside doors.



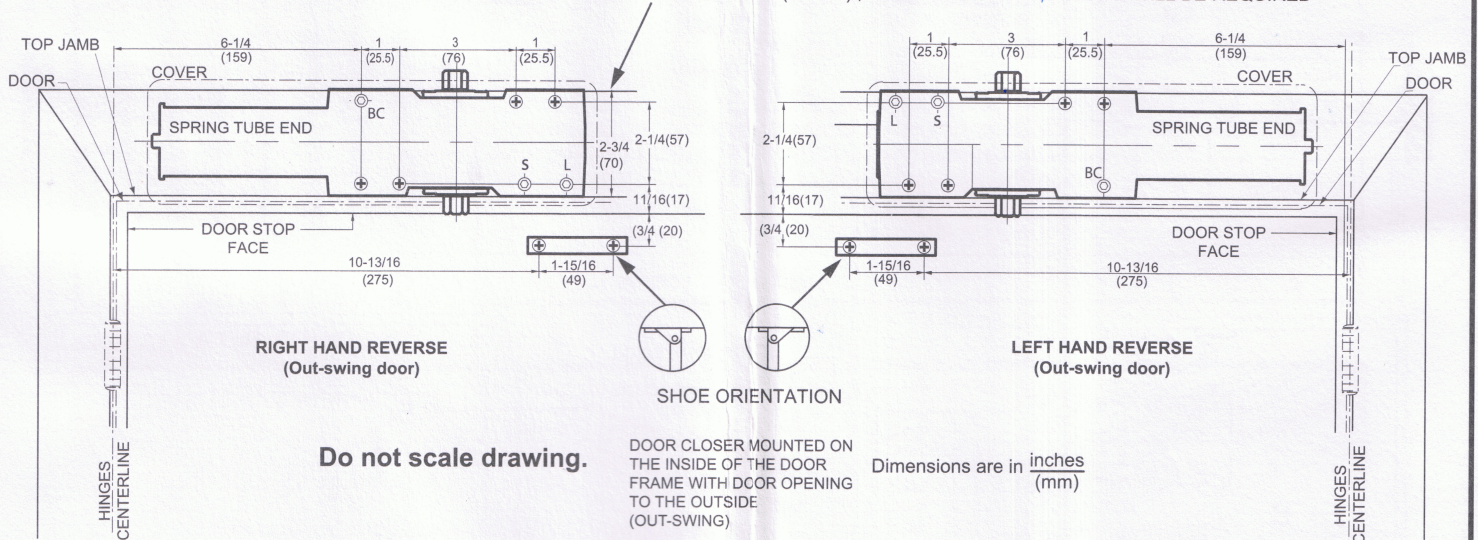
CAUTION

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TOP JAMB MOUNTING (PUSH SIDE)

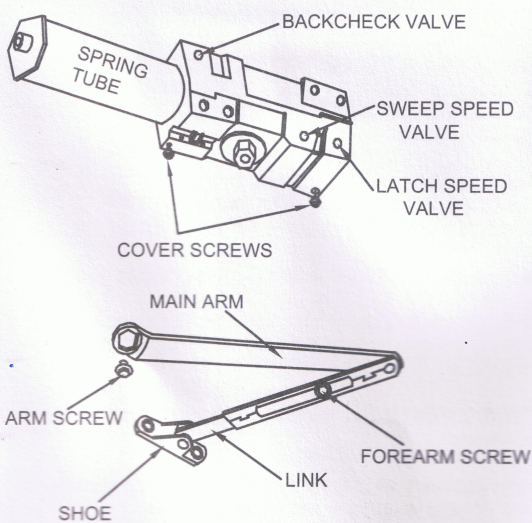
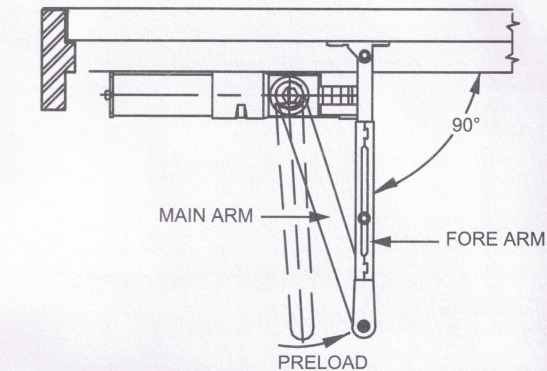
INSTALLATION DIMENSIONS FOR 120° DOOR OPENING

INSTALLATION REQUIRES A FRAME TOP JAMB FACE HEIGHT OF MINIMUM 2-3/4" (70 mm), OTHERWISE A DROP PLATE WILL BE REQUIRED

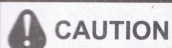


INSTALLATION STEPS:

1. Adjust spring power to match door size as indicated in chart on page 1.
2. Prepare mounting holes and mount closer on frame top jamb to dimensions shown with spring tube-end on hinges side.
 - a) For wood or sheet metal screws installation pre-drill 3/16" (4.5 mm) diameter holes
 - b) For machine screws installation drill and tap for 1/4 -20 UNC thread
3. Prepare mounting holes and mount forearm arm shoe onto the door to shown dimension.
 - a) For wood or sheet metal screws installation pre-drill 3/16" (4.5 mm) diameter holes
 - b) For machine screws installation drill and tap for 1/4 -20 UNC thread
 - c) For fire rated doors use machine screws or through-bolts.
4. Remove link/shoe from forearm and attach main arm to door closer bottom shaft as shown
5. Attach forearm link shoe to frame top jamb at shown orientation.
6. Open door and insert forearm link into forearm, close door, rotate main arm and adjust the forearm link length until the forearm is 90° to the frame top jamb surface (door closer spring pre-loading). Secure forearm link firmly to forearm with forearm screw using wrench tool.
7. Adjust door closing and latching speed and backcheck as required as per speed control instructions on sheet 2.
8. Prepare door closer cover with cover inserts at the appropriate locations according to the door closer orientation and attach to door closer with supplied screws.



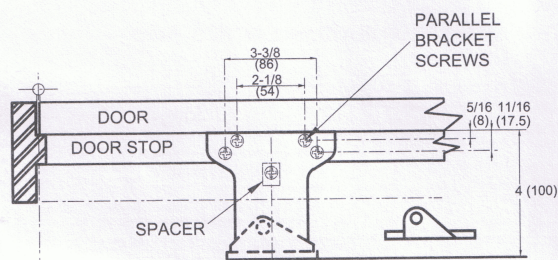
REMOVABLE INSERTS
TO CONVERT TO OPPOSITE
HAND COVER



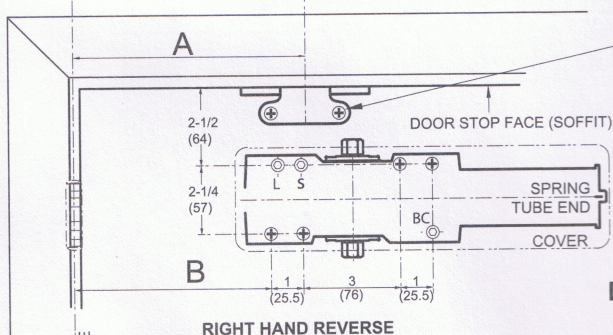
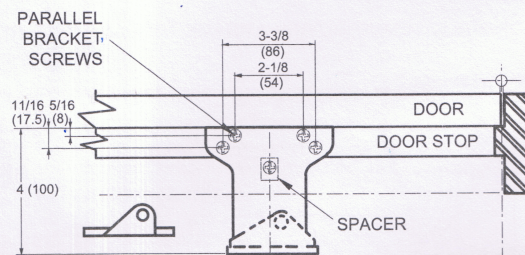
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PARALLEL ARM INSTALLATION (PUSH SIDE)

INSTALLATION DIMENSIONS FOR 90°, 120° & 180° DOOR OPENINGS

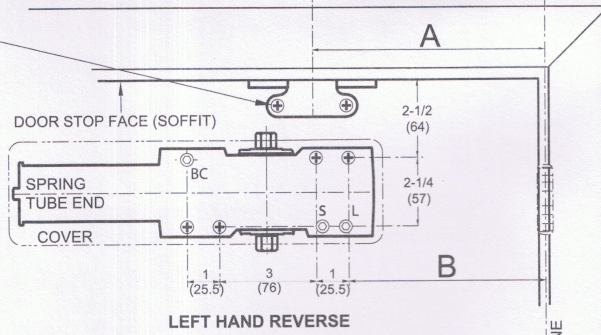


Door Max. open angle	A	B
180°	7-7/8" (200mm)	6-1/2" (165mm)
120°	10" (254mm)	8" (203mm)
90°	11-1/2" (292mm)	9-1/2" (241mm)



FOREARM SHOE SCREWS

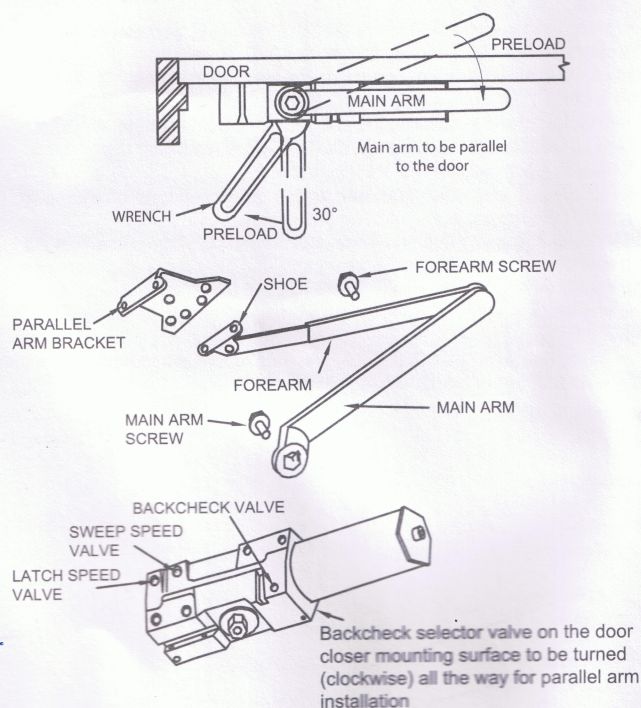
DOOR CLOSER MOUNTED ON DOOR INSIDE SURFACE WITH DOOR OPENING TO THE OUTSIDE (OUT-SWING)



Do not scale drawing.

Dimensions are in inches
(mm)

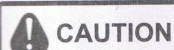
NOTE: BEFORE INSTALLING CLOSER, TURN THE BACKCHECK SELECTOR VALVE ON THE CLOSER MOUNTING SURFACE (UNDERSIDE) ALL THE WAY IN (CLOCKWISE) !



INSTALLATION STEPS:

- Adjust spring power to match door width as indicated by chart on page 1.
- Prepare mounting holes and mount closer on door to dimensions shown, with spring tube end toward latch. (Locate closer from center of hinges).
 - For wood screw installation pre-drill 3/16" (4.5 mm) dia. holes.
 - For machine screw installation drill and tap for 1/4 -20 UNC thread.
 - For fire rated doors use machine screws or through-bolts.
- Prepare mounting holes and mount parallel arm bracket onto the frame door stop face (soffit).
 - For wood screw installation pre-drill 3/16" (4.5 mm) dia. holes.
 - For machine screw installation drill and tap for 1/4 -20 UNC thread.
 - Machine screw installation is recommended.
 - Use 5th mounting hole with spacer for additional bracket rigidity.
- Attach main arm to door closer top shaft as follows:
 - Place wrench on bottom shaft and turn toward hinge jamb about 30°.
 - Place main arm on top shaft, insert main arm screw into top of shaft and tighten.
- Attach forearm link shoe to parallel arm bracket as shown. (Offset toward hinge)
- Open door and insert rod in forearm, and close door. Adjust the forearm link length until the main arm is parallel to the door surface. Secure forearm link to forearm firmly with forearm screw using wrench tool.
- Adjust door closing and latching speed and backcheck as required as per speed control instructions on page 2.
- Prepare door closer cover with cover inserts at the appropriate locations according to the door closer orientation and attach to door closer with supplied screws.

PARALLEL ARM INSTALLATION REDUCES THE DOOR CLOSING FORCE TO ONE SIZE LOWER (THE MAXIMUM SIZE WILL BE 5)



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