# Selector Guide: Standard Truarc Ring Series

## DESIGN FEATURES

### RING TYPES FOR AXIAL ASSEMBLY

**Series N5000, 5100:** Tapered section assures constant circularity and groove pressure. Secure against heavy thrust loads and high rotational speeds.

**Series 5008, 5108:** Lugs inverted to abut groove bottom. Rings form high circular shoulder, concentric with bore or shaft. Good for parts having large corner radii or chamfers.

**Series 5160:** Heavy-duty ring resists high thrust, impact loads. Eliminates spacer washers in bearing assemblies.

**Series 5560:** New miniature, high-strength ring. Forms tamper-proof shoulder on small diameter shafts subject to heavy thrust loads.

**Series 5590:** Permanent-shoulder ring for small diameter shafts. When compressed into groove, notches deform to close gaps, reducing both I.D. and O.D.

**Series 5900:** Precision Support Washer for use with Series 5100 and 5108 rings used to secure bearings with large corner breakouts.

### RING TYPES FOR RADIAL ASSEMBLY

**Series 5103:** Forms narrow, uniformly concentric shoulder. Excellent for assemblies where clearance is limited.

**Series 5133:** Provides large shoulder on small diameter shafts. Installed in deep groove for added thrust capacity.

**Series 5144:** Reinforced to provide five times greater gripping strength, 50% higher rpm limits than conventional E-rings. Secure against rotation.

**Series 5107:** Two-part ring balanced to withstand high rpm's, heavy thrust loads, relative rotation between parts.

**Series 5304:** New high-strength ring for large bearing surface. Can be installed quickly with pliers or mallet, removed with ordinary screw driver.

**Series T5304:** Thinner model of 5304. Can be seated in same width grooves as E-rings, has more gripping power. Good for cast or molded grooves.

### RING TYPES FOR TAKING UP END-PLAY

**Series N5001, 5101:** Bowed cylindrically to accommodate large tolerances, provide resilient end-play take-up.

**Series N5002, 5102:** Rings beveled 15° on groove-engaging edge for use in groove with similar bevel. Wedge action provides rigid end-play take-up. **Series N5003** is beveled on both sides of outer edge to assure proper seating against beveled groove wall.

**Series 5131:** Provides large shoulder on small diameter shafts. Bowed for resilient end-play take-up.

**Series 5139:** Bowed ring designed for use as shoulder against rotating parts. Prongs lock against shaft, prevent ring from being forced from groove.

### SELF-LOCKING TYPE RINGS (No groove required)

**Series 5115:** Push-on type fastener for ungrooved shafts and studs. Has arched rim for extra strength, long prongs for wide shaft tolerances.

**Series 5105, 5005:** Flat rim, shorter prongs, smaller O.D. than 5115. For flat contact surface, better clearance.

**Series 5135:** Radially-assembled. Cuts indentations in shaft during installation for increased resistance to axial displacement. (See Page 1.)

**Series 5555:** Axially-assembled. Exerts frictional hold against displacement from either axial direction. Adjustable, reusable.

**Series 5305:** Dished body, three heavy prongs lock on shaft under spring tension. Withstands heavy thrust loads.

**Series 5300:** Free-spinning nut. Dished body flattens under torque, eliminating need for separate lock washers.

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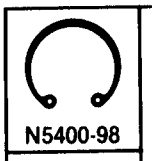
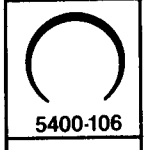
|---|---|---|---|---|---|---|---|
|  INTERNAL | BASIC **N5000** For housings and bores. Size Range: .250—10.0 in. / 6.4—254.0 mm. |  EXTERNAL | BOWED **5101*** For shafts and pins. Size Range: .188—1.750 in. / 4.8—44.4 mm. |  EXTERNAL | BOWED E-RING **5131** For shafts and pins. Size Range: .110—1.375 in. / 2.8—34.9 mm. |  EXTERNAL | KLIPRING® **5304** For shafts and pins. Size Range: .156—2.00 in. / 4.0—50.8 mm |
|  INTERNAL | BOWED **N5001*** For housings and bores. Size Range: .250—1.750 in. / 6.4—44.4 mm. |  EXTERNAL | BEVELED **5102** For shafts and pins. Size Range: 1.0—10.0 in. / 25.4—254.0 mm. |  EXTERNAL | E-RING **5133** For shafts and pins. Size Range: .040—1.375 in. / 1.0—34.9 mm. |  EXTERNAL | KLIPRING® **T5304** For shafts and pins. Size Range: .156—1.00 in. / 4.0—25.4 mm |
|  INTERNAL | BEVELED **N5002** For housings and bores. Size Range: 1.0—10.0 in. / 25.4—254.0 mm |  EXTERNAL | CRESCENT® **5103** For shafts and pins. Size Range: .125—2.0 in. / 3.2—50.8 mm. |  EXTERNAL | RADIAL GRIPRING® **5135** for shafts and pins. Size Range: .094—.375 in. / 2.4—9.5 mm. |  EXTERNAL | TRIANGULAR **5305*** For shafts and pins. Size Range: .062—.438 in. / • |
|  INTERNAL | DOUBLE-BEVELED **N5003** For housings and bores. Size Range: 1.56—2.81 in. / 39.7—71.4 mm |  EXTERNAL | CIRCULAR **5105** For shafts and pins. Size Range: .094—1.0 in. / • |  EXTERNAL | PRONG-LOCK® **5139*** For shafts and pins. Size Range: .092—.438 in. / • |  EXTERNAL | GRIPRING® **5555** For shafts and pins. Size Range: .079—.750 in. / 2.0—19.0 mm |
|  INTERNAL | CIRCULAR **5005** For housings and bores. Size Range: .312—2.0 in. / • |  EXTERNAL | INTERLOCKING **5107*** For shafts and pins. Size Range: .469—3.375 in. / 11.9—85.7 mm. |  EXTERNAL | REINFORCED E-RING **5144** For shafts and pins. Size Range: .094—.562 in. / 2.4—14.3 mm. |  EXTERNAL | HIGH-STRENGTH **5560*** For shafts and pins. Size Range: .101—.328 in / • |
|  INTERNAL | INVERTED **5008** For housings and bores. Size Range: .750—4.0 in. / 19.0—101.6 mm. |  EXTERNAL | INVERTED **5108** For shafts and pins. Size Range: .500—4.0 in. / 12.7—101.6 mm. |  EXTERNAL | HEAVY-DUTY **5160** For shafts and pins. Size Range: .394—2.0 in. / 10.0—50.8 mm. |  EXTERNAL | PERMANENT SHOULDER **5590*** For shafts and pins. Size Range: .250—.750 / 6.4—19.0 mm |
|  EXTERNAL | BASIC **5100** For shafts and pins. Size Range: .125—10.0 in. / 3.2—254.0 mm. |  EXTERNAL | REINFORCED **5115** For shafts and pins. Size Range: .094—1.0 in. / • |  EXTERNAL | TRIANGULAR NUT **5300*** For threaded parts. Size Range: 6-32 and 8-32 / 10-24 and 10-32 / 1/4-20 and 1/4-28 |  EXTERNAL | PRECISION SUPPORT WASHER **5900*** For shafts and pins. Size Range: .157-3.937 in. / 4-100 mm |

* Available on special order only

# Selector Guide: Special Rings

The Truarc retaining rings illustrated below were developed by Waldes Truarc Inc. for special customer requirements. Most have been manufactured and used successfully in actual product applications; others are conceptual solutions to design problems. Truarc special rings are available for general use *only* in the sizes indicated. Availability of these and other special rings is subject to prior inquiry and quotation.


N5400-98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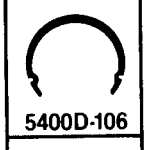

5400D-106


N5400-44

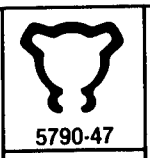
## RINGS FOR AXIAL ASSEMBLY, Internal

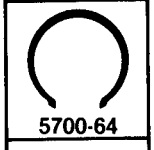
**N5400-98:** Piston pin retainer designed to be seated in extra deep grooves. Increased ring thickness provides for heavy duty service.

**5400-106:** Internal ring without lugs. Provides larger clearance diameter in housing while remaining firmly seated in groove. Ring may be assembled and disassembled with screwdriver.

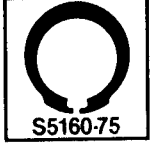
**5400D-106:** Variation of 5400-106. Acts as a precision detent spring. Notches facilitate assembly and disassembly.

**N5400-44:** Variation of Series N5000. Rod is pushed through ring prongs to couple rod to bore.


5790-47


5700-64


5700-92


S5160-75

## RINGS FOR AXIAL ASSEMBLY, External

**5790-47:** Protruding "ears" provide high shoulder to create large abutting surface. Ring is used as safety device on threaded shaft, preventing nut from backing off.

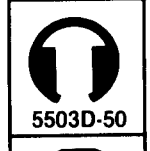
**5700-64:** Small available clearance eliminates use of holes in lugs. Used in automotive distributor assembly. Ring is removed by prying out inner gap edges.

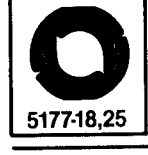
**5700-92:** Ring applies lateral pressure against electrical component board. Assures that circuit remains intact if board cracks.

**S5160-75:** Variation of Series 5160. Reduced lug and maximum section fit within small clearance diameter in automotive disc brake.


S5304-66


5503-50


5503D-50


5177-18,25

## RINGS FOR RADIAL ASSEMBLY

**S5304-66:** Ring provides positive drive for detent in thrust runner of electric motor. Flats added to prevent rotation.

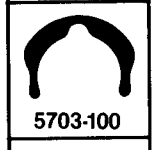
**5503-50:** Variation of Series 5103. Extended center prong used for key stop in lock cylinder.

**5503D-50:** Designed for use with square shaft or shaft having two parallel slots.

**5177-18,25:** Variation of Series 5107. Heavy-duty two-part ring designed to provide uninterrupted shoulder on small-diameter shafts. Withstands high thrust and impact loads. U.S. Pat. No. 3,162,084.


5733-12


S5304-25


5703-100


5703-37

## RINGS FOR RADIAL ASSEMBLY

**5733-12:** Double sided E-ring used to couple welded studs on core and treadle bars of car radio.

**S5304-25:** Variation of Series 5304. Flat in neck portion sits against flat on grooved shaft. Used to prevent rotation in telephone dial assembly.

**5703-100:** Special notched ring, made of 301 stainless steel, couples spout of swivel faucet to body.

**5703-37:** Variation of Series 5103. Ring forms friction coupling, securing stem in housing of furniture caster.


N5402-125


N5402-500


5531-50


5739-62

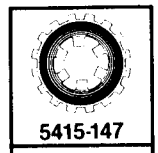
## RINGS FOR TAKING-UP END-PLAY

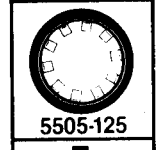
**N5402-125:** Variation of Series N5002. Enlarged lug aids in bevel orientation during assembly.

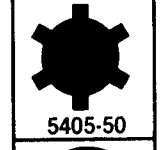
**N5402-500:** Variation of Series N5002. Scallops make ring more flexible, ease compression.

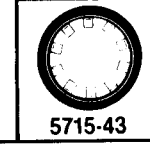
**5531-50:** Variation of Series 5131. Tab in center sits in groove's slot, preventing ring rotation.

**5739-62:** Variation of Series 5139. Used to retain automotive brake hose to bracket. Extended legs prevent ring from being turned for disassembly. Saw-tooth rim digs into bracket to assure tamper-proof design.


5415-147


5505-125


5405-50


5715-43

## SELF-LOCKING RINGS

**5415-147:** Special internal ring with pressure prongs for retaining ball bushing in windshield wiper motor.

**5505-125:** Special external ring is shaped spherically to conform to ball contour of retained part.

**5405-50:** Variation of Series 5005 internal ring, without hole. Used in assemblies with light loads where abutting part has a diameter smaller than hole in standard ring.

**5715-43:** Variation of Series 5115 external ring. Serves as a thrust-washer for bicycle pedal bearing assembly. Ring permits balls to run freely on its outer rim.