

R&R Fixtures

CMM and vision fixturing



Fixturing Problems?

R&R has the solution for either your CMM or vision system. We can improve your productivity, reduce fixturing cost, and help your company be more competitive by using our R&R modular fixtures or by building a specialized fixture that is designed specifically for your part's application.

R&R can be your single source for CMM and vision fixturing. We have been dedicated to supplying fixturing to the metrology field for over 20 years. Our #1 goal is our customer's satisfaction by making sure that your CMM or vision system is as productive as it can be.

Through fixturing, R&R is continually working hard to increase productivity within the aerospace, automotive, appliance, electronics, industrial, medical, and numerous other industries worldwide. We strive to have the best solution for any fixturing problem.



The Right Fixture at the Right Price

R & R HAS YOUR FIXTURING SOLUTION

CMM MODULAR FIXTURING FOR CMM MACHINES



Our R&R modular CMM fixture is quick, easy to use, and modular enough to set up any part, no matter what shape, size or material. This helps eliminate downtime on your CMM, reduce fixturing cost, and allows an unlimited number of ways to hold parts repeatably.

one solution
unlimited possibilities

large parts
or small parts

quick & easy

improve repeatability
reduce cost

VISION MODULAR FIXTURING FOR VISION SYSTEMS



With the R&R modular vision fixture, you can hold even the smallest of parts while maintaining a clear view of the entire part. Our modular fixturing is quick and simple to use so parts can be setup within minutes.

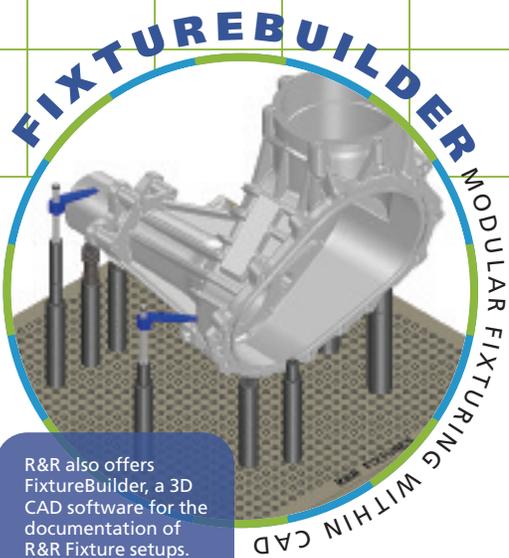


R&R also provides custom fixturing for those parts that need specific details or mounting positions. Multiple parts and families of parts can be fixtured at once. The fixturing is designed specifically for the way you need to check the part, whether on a CMM or vision system.

single
or multiple part setups

all shapes,
sizes
& materials

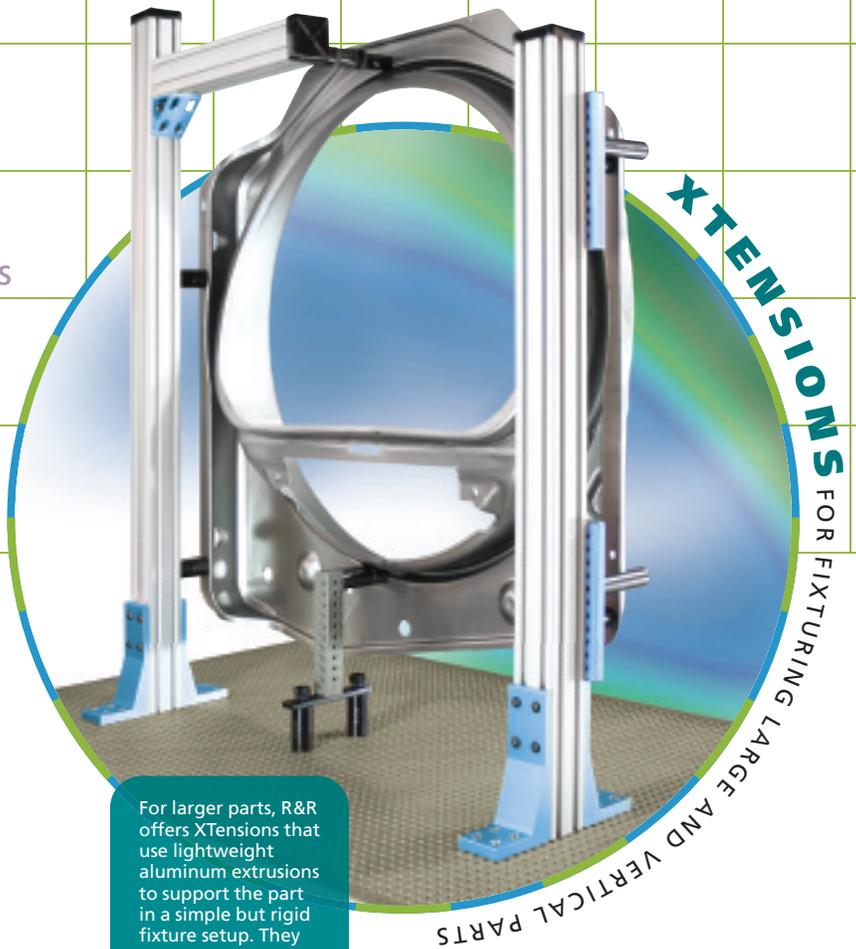
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R&R also offers FixtureBuilder, a 3D CAD software for the documentation of R&R Fixture setups. It's a quick and easy way to document which of the R&R Fixture components were used and in what location—great for ISO and QS 9000 documentation.

3D
documentation

short payback
great value



For larger parts, R&R offers XTensions that use lightweight aluminum extrusions to support the part in a simple but rigid fixture setup. They are a great way to set parts up vertically for full exposure to the part. XTensions can be used in conjunction with R&R Fixture components.

vertical
or horizontal setups

The R&R Solution

MODULAR FIXTURING FOR CMM MACHINES

To be competitive in today's ever changing world, with innovation and new technology constantly evolving, companies need to inspect more and more parts with shorter lead times while still maintaining the highest quality standards without spending a lot of money. The modular R&R Fixture is quick, easy to use, and flexible enough to hold all your different parts. It will decrease inspection cost while improving productivity. The fixture will also

help improve the accuracy of your part inspections...no more wasting time and money on traditional fixturing methods.

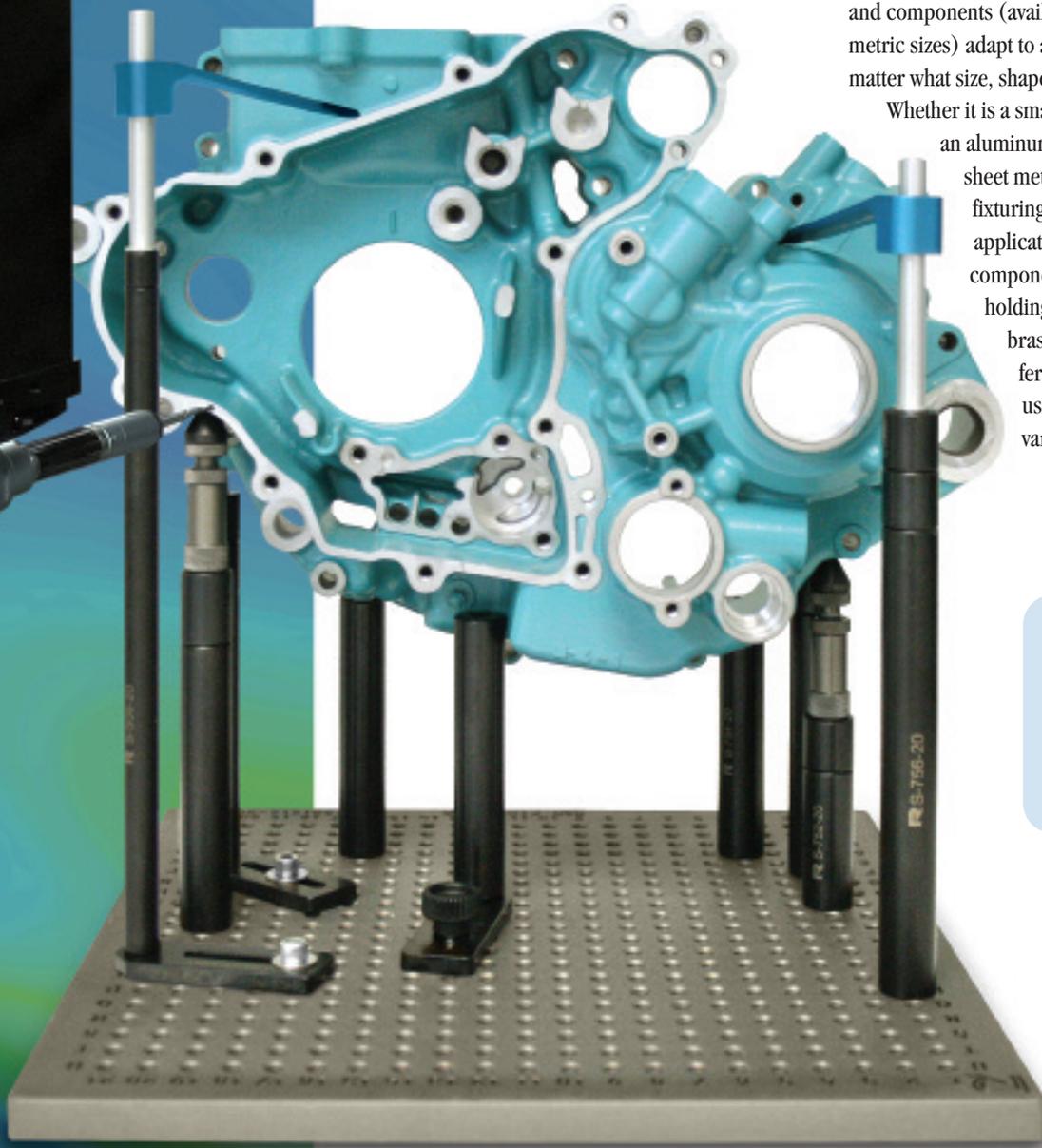
Holds Virtually Anything

R&R modular fixtures are designed to minimize traditional fixturing methods such as step clamps, glue, and tape, as well as reduce the need for dedicated fixtures. Our base plates and components (available in English or metric sizes) adapt to any application, no matter what size, shape, or material the part is.

Whether it is a small intricate plastic part, an aluminum engine block, or large sheet metal part, the R&R fixturing system can fit all your applications. Our magnetic components can be used for holding steel parts. Aluminum, brass, plastic, or non-ferrous parts can be held using our clamps and various other components.

R&R MODULAR FIXTURE BENEFITS:

- ease of use
- unlimited number of setups
- setup within minutes
- affordable for any budget
- recordable



Reduce Setup Time

R&R Fixtures can be used for production parts as well as one-of-a-kind or prototype parts that need a quick, easy way to secure the part for inspection. Part setups can be quickly configured using various components and hole locations that are limited only by the user's imagination. All components work together to secure the part to the fixture. The multiple holes on each base plate increase the flexibility of the fixture and enable the part to be set up within minutes obtaining results sooner, saving both time and money on fixturing cost.

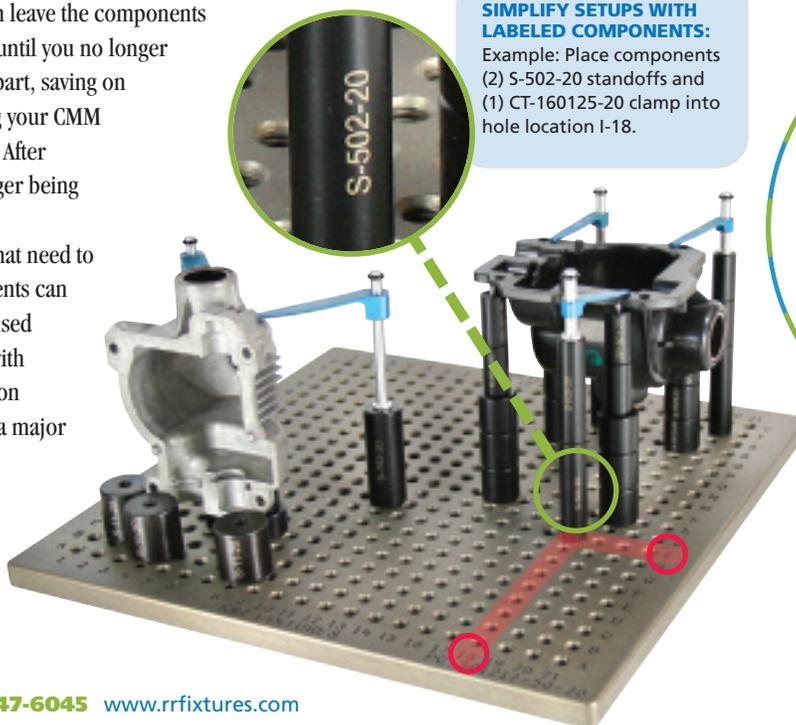
Improve Repeatability and Reproducibility

Our precision modular fixture is called the R&R Fixture for its ability to improve repeatable and reproducible measurements. After the initial setup is created and documented, our alphanumeric base plates and labeled components enable the user to set the part up in the same location each and every time the part is checked. This will increase the accuracy of your part measurements and improve your gage R&R.

Automate Your CMM

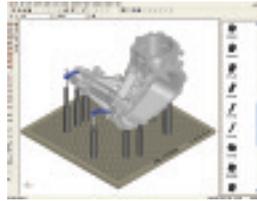
When a part needs to be checked on a more frequent basis, you can leave the components set up on a base plate until you no longer repetitively check the part, saving on setup time and making your CMM even more automated. After those parts are no longer being checked or there are engineering changes that need to be made, the components can be broken down and used for other part setups with little or no down time on the CMM. This can be a major cost savings.

- To save time on frequently checked parts, leave setup assembled.



Document Part Setups

By documenting the initial setup manually or with our 3D CAD FixtureBuilder software you can maintain consistency on all future setups. This is especially helpful when there may be multiple users or a long period of time between setups. Recording and saving setups can be accomplished with just a click of the mouse using our FixtureBuilder software that will give you a build list of exactly what you used and in what location.



- FixtureBuilder is a 3D fixture modeling software that creates R&R setups for documenting and off-line programming. See page 22.

Ability To Inspect Every Detail

Many times with traditional fixturing, features can be obstructed from the probe path due to cumbersome and bulky fixturing. With the R&R Fixture, various component and hole locations can be used to find the best combination to create an unobstructed probe path. Components can be quickly moved or changed to find the most precise way for the features to be measured.



don't let fixturing slow you down...
increase your performance, flexibility and productivity with R&R Fixtures

FLEXIBLE PARTS



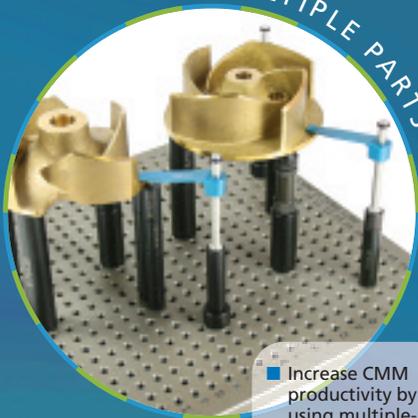
Tension clamps allow the part to be held using minimal contact.

CYLINDRICAL PARTS



Hold cylindrical parts with the 3-jaw clamp, cones or Vs.

MULTIPLE PARTS AT ONCE



Increase CMM productivity by using multiple-part setups.

secure base plate to CMM with available mounting holes

labeled on all four sides for quicker setup and documentation

Cost Advantage

An important advantage of the modular R&R Fixtures are that setups are more repeatable and reproducible than traditional fixturing methods, and faster setup time equals added savings:

10 Parts: One Time Per Month	R&R	Traditional
Initial fixture part setup	10 min	17 min
Each additional part setup x number of additional parts	1 min x 9	3 min x 9
Total Setup Time (10 parts) *	19 min	44 min
Inspection cost per part at \$80/hr burden rate x other similar inspections per month	\$25.33 x 20	\$58.66 x 20
Total Inspection Cost (20 inspections)	\$506/mo	\$1,173/mo

10 Parts: Five Times Per Month	R&R	Traditional
Initial Setup Time (10 parts) *see above	19 min	44 min
Time to refixture for additional inspection x number of times per month	3 min x 5	14 min x 5
Total Setup + Refixture Time (10 parts)	34 min	114 min
Inspection cost per part at \$80/hr burden rate x other similar inspections per month	\$45.33 x 20	\$152.00 x 20
Total Inspection Cost (20 inspections)	\$906/mo	\$3,040/mo

components can be threaded together to create variable lengths

use either towers (shown here) or XTensions (see page 20) to create vertical setups that enable complete access of the part

R&R cast aluminum base plates are made with NiTuff hard coat anodize to resist scratching

Setup Multiple Parts at a Time

Whether you are checking similar parts or a variety of parts, you can have as many setups on the base plate as feasibly possible, making your CMM even more productive.



Multiple small part setups on an M4 aluminum base plate.

CMM Plates

R&R CMM base plates are available in standard and custom sizes. Base plates are all precision ground within tight tolerances which are key to the accuracy of the R&R modular fixturing system. Cast aluminum base plates are made with NiTuff hard coat anodize to resist scratching and wear longer. Steel plates are made with a black oxide finish and are available in sizes up to 48" x 60" (1200mm x 1500mm).

Base plates are available in standard and custom sizes up to 60" x 120" (1500mm x 3000mm). You can choose between 1/4-20, M4, M8, or M12 threaded holes on the plate.

Mounting holes for attaching the R&R base plate to your CMM are available. A drawing will be provided showing the exact location of the base plate on your specific CMM as well as the mounting hole positions.

mounting holes to attach the base plate to your specific CMM are available

PLATE EXAMPLES

aluminum
3/4" thick
1/4-20 threads
(1/2" o.c.)

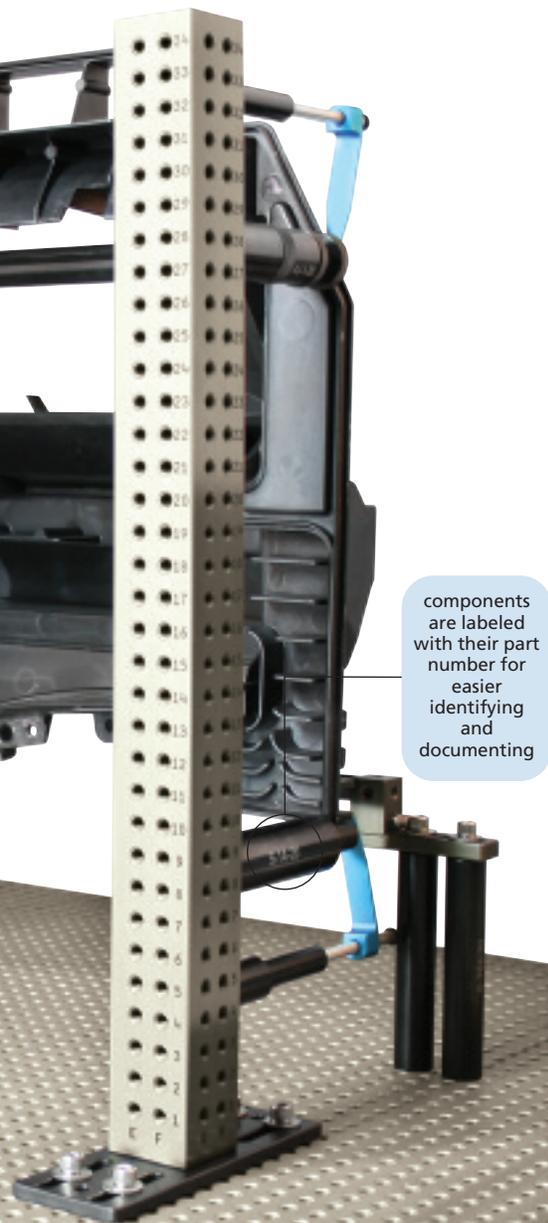
aluminum
3/4" thick
1/4-20 threads
(1" o.c.)

aluminum
13mm thick
M4 threads
(10mm o.c.)

aluminum
13mm thick
M8 threads
(15mm o.c.)

aluminum
25mm thick
M12 threads
(50mm o.c.)

steel
3/4" thick
1/4-20 threads
(1/2" o.c.)



components are labeled with their part number for easier identifying and documenting

radius corners and sides for better ergonomics

multiple holes increase component location possibilities

1/4-20 Threaded Standard Plate Sizes (inches)

1/2" thick plates	12" x 12"	18" x 18"		
3/4" thick plates	24" x 24"	30" x 30"	28" x 40"	36" x 48"

1/4-20 threaded holes 0.50" on center (1" optional)

M4 Threaded Standard Plate Sizes (mm)

13mm thick plates	150x150	300x300		
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M4 threaded holes 10mm on center

M8 Threaded Standard Plate Sizes (mm)

13mm thick plates	300x300	450x450		
19mm thick plates	600x600	750x750	750x1020	900x1200

M8 threaded holes 15mm on center (30mm optional)

M12 Threaded Plate Sizes (mm)

25mm thick plates	AVAILABLE UPON REQUEST			
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M12 threaded holes 50mm on center

1/4-20 CMM clamping kits

A comprehensive kit for holding aluminum, plastic, brass, titanium and other nonferrous parts. A kit includes a base plate with 1/4-20 threaded holes .50" on center (choose from plate sizes listed below) and one set of components (A, B, or C).

To determine a part number for the desired kit:

- 1 Choose a base plate size.
- 2 Choose a component set.



KIT PART #	BASE PLATE SIZE	SET
KC-C1A-20	.50" x 12" x 12"	A
KC-C2A-20	.50" x 18" x 18"	A
KC-C3A-20	.75" x 24" x 24"	A
KC-C4A-20	.75" x 30" x 30"	A
KC-C5A-20	.75" x 28" x 40"	A
KC-C6A-20	.75" x 36" x 48"	A

KIT PART #	BASE PLATE SIZE	SET
KC-C1B-20	.50" x 12" x 12"	B
KC-C2B-20	.50" x 18" x 18"	B
KC-C3B-20	.75" x 24" x 24"	B
KC-C4B-20	.75" x 30" x 30"	B
KC-C5B-20	.75" x 28" x 40"	B
KC-C6B-20	.75" x 36" x 48"	B

KIT PART #	BASE PLATE SIZE	SET
KC-C1C-20	.50" x 12" x 12"	C
KC-C2C-20	.50" x 18" x 18"	C
KC-C3C-20	.75" x 24" x 24"	C
KC-C4C-20	.75" x 30" x 30"	C
KC-C5C-20	.75" x 28" x 40"	C
KC-C6C-20	.75" x 36" x 48"	C

Set A: (42) 1/4-20 components

QTY	PART #	DESCRIPTION
3	S-5075-20	.50" dia. x .75" standoff
3	S-501-20	.50" dia. x 1.0" standoff
3	S-502-20	.50" dia. x 2.0" standoff
3	S-7575-20	.75" dia. x .75" standoff
3	S-751-20	.75" dia. x 1.0" standoff
3	S-752-20	.75" dia. x 2.0" standoff
3	S-175-20	1.0" dia. x .75" standoff
3	S-11-20	1.0" dia. x 1.0" standoff
3	S-12-20	1.0" dia. x 2.0" standoff
2	SP-501-20	.50" dia. x 1.0" pin standoff
2	CT-160-125-20	1.6" tension clamp with 1.25" post
4	CT-250-275-20	2.5" tension clamp with 2.75" post
3	RCD-20	Delrin resting cone
1	AJ-50-20	.50" dia. adjustable jack stand
1	AS-1-20	1.0" adjustable slide
1	AS-3-20	3.0" adjustable slide
1	TC-500200	20" x 8" x 1" component tray



Set B: (109) 1/4-20 components

QTY	PART #	DESCRIPTION
3	S-37550-20	.375" dia. x .50" standoff
6	S-5075-20	.50" dia. x .75" standoff
6	S-501-20	.50" dia. x 1.0" standoff
6	S-502-20	.50" dia. x 2.0" standoff
3	S-7550-20	.75" dia. x .50" standoff
6	S-7575-20	.75" dia. x .75" standoff
6	S-751-20	.75" dia. x 1.0" standoff
6	S-752-20	.75" dia. x 2.0" standoff
4	S-754-20	.75" dia. x 4.0" standoff
6	S-175-20	1.0" dia. x .75" standoff
6	S-11-20	1.0" dia. x 1.0" standoff
6	S-12-20	1.0" dia. x 2.0" standoff
4	S-14-20	1.0" dia. x 4.0" standoff
4	SP-501-20	.50" dia. x 1.0" pin standoff
6	CT-160-125-20	1.6" tension clamp with 1.25" post
12	CT-250-275-20	2.5" tension clamp with 2.75" post
4	RCD-20	Delrin resting cone
4	RPS-20	steel resting pin
2	AJ-50-20	.50" dia. adjustable jack stand
2	AJ-1-20	1.0" dia. adjustable jack stand
2	AS-1-20	1.0" adjustable slide
2	AS-3-20	3.0" adjustable slide
2	TB-751-20	tower block with base
1	TC-500200	20" x 8" x 1" component tray



Set C: (161) 1/4-20 components

QTY	PART #	DESCRIPTION
6	S-37550-20	.375" dia. x .50" standoff
4	S-5050-20	.50" dia. x .50" standoff
8	S-5075-20	.50" dia. x .75" standoff
8	S-501-20	.50" dia. x 1.0" standoff
8	S-502-20	.50" dia. x 2.0" standoff
4	S-7550-20	.75" dia. x .50" standoff
8	S-7575-20	.75" dia. x .75" standoff
8	S-751-20	.75" dia. x 1.0" standoff
8	S-752-20	.75" dia. x 2.0" standoff
6	S-754-20	.75" dia. x 4.0" standoff
8	S-175-20	1.0" dia. x .75" standoff
8	S-11-20	1.0" dia. x 1.0" standoff
8	S-12-20	1.0" dia. x 2.0" standoff
6	S-14-20	1.0" dia. x 4.0" standoff
4	SP-501-20	.50" dia. x 1.0" pin standoff
2	SP-751-20	.75" dia. x 1.0" pin standoff
6	CT-160-125-20	1.6" tension clamp with 1.25" post
12	CT-250-275-20	2.5" tension clamp with 2.75" post
3	CT-375-325-20	3.75" tension clamp with 3.25" post
3	CT-4P-325-20	4.0" tension clamp plunger with 3.25" post
1	CTB-1-20	1.0" tension clamp bracket
6	RCD-20	Delrin resting cone
6	RPS-20	steel resting pin
1	APJ-20	adjustable pivot joint
4	AJ-50-20	.50" dia. adjustable jack stand
3	AJ-1-20	1.0" dia. adjustable jack stand
3	AS-1-20	1.0" adjustable slide
4	AS-3-20	3.0" adjustable slide
2	TB-751-20	tower block with base
1	T-112-20	1.0" sq. x 12" tower (1 Row, 4 Sides)
2	TC-500200	20" x 8" x 1" component tray



1/4-20 CMM magnetic & clamping kits

A comprehensive kit for holding steel, aluminum, plastic and other ferrous and nonferrous parts. A kit includes a base plate with 1/4-20 threaded holes .50" on center (choose from plate sizes listed below) and one set of components (A, B, or C).



KC-MC3B-20 kit shown

To determine a part number for the desired kit:

- 1 Choose a base plate size.
- 2 Choose a component set.

KIT PART #	BASE PLATE SIZE	SET
KC-MC1A-20	.50" x 12" x 12"	A
KC-MC2A-20	.50" x 18" x 18"	A
KC-MC3A-20	.75" x 24" x 24"	A
KC-MC4A-20	.75" x 30" x 30"	A
KC-MC5A-20	.75" x 28" x 40"	A
KC-MC6A-20	.75" x 36" x 48"	A

KIT PART #	BASE PLATE SIZE	SET
KC-MC1B-20	.50" x 12" x 12"	B
KC-MC2B-20	.50" x 18" x 18"	B
KC-MC3B-20	.75" x 24" x 24"	B
KC-MC4B-20	.75" x 30" x 30"	B
KC-MC5B-20	.75" x 28" x 40"	B
KC-MC6B-20	.75" x 36" x 48"	B

KIT PART #	BASE PLATE SIZE	SET
KC-MC1C-20	.50" x 12" x 12"	C
KC-MC2C-20	.50" x 18" x 18"	C
KC-MC3C-20	.75" x 24" x 24"	C
KC-MC4C-20	.75" x 30" x 30"	C
KC-MC5C-20	.75" x 28" x 40"	C
KC-MC6C-20	.75" x 36" x 48"	C

Set A: (47) 1/4-20 components

QTY	PART #	DESCRIPTION
3	M-50-20	.50" dia. x 1.0" magnet
3	M-75-20	.75" dia. x 1.0" magnet
3	M-1-20	1.0" dia. x 1.0" magnet
3	S-5075-20	.50" dia. x .75" standoff
3	S-501-20	.50" dia. x 1.0" standoff
3	S-502-20	.50" dia. x 2.0" standoff
3	S-7575-20	.75" dia. x .75" standoff
3	S-751-20	.75" dia. x 1.0" standoff
3	S-752-20	.75" dia. x 2.0" standoff
3	S-175-20	1.0" dia. x .75" standoff
3	S-11-20	1.0" dia. x 1.0" standoff
3	S-12-20	1.0" dia. x 2.0" standoff
4	CT-250-275-20	2.5" tension clamp with 2.75" post
3	RCD-20	Delrin resting cone
1	AJ-50-20	.50" dia. adjustable jack stand
1	AS-1-20	1.0" adjustable slide
1	AS-3-20	3.0" adjustable slide
1	TC-500200	20" x 8" x 1" component tray



Set B: (111) 1/4-20 components

QTY	PART #	DESCRIPTION
4	M-50-20	.50" dia. x 1.0" magnet
4	M-75-20	.75" dia. x 1.0" magnet
4	M-1-20	1.0" dia. x 1.0" magnet
2	MP-50-20	.50" dia. x 1.0" pin magnet
3	S-37550-20	.375" dia. x .50" standoff
6	S-5075-20	.50" dia. x .75" standoff
6	S-501-20	.50" dia. x 1.0" standoff
6	S-502-20	.50" dia. x 2.0" standoff
3	S-7550-20	.75" dia. x .50" standoff
6	S-7575-20	.75" dia. x .75" standoff
6	S-751-20	.75" dia. x 1.0" standoff
6	S-752-20	.75" dia. x 2.0" standoff
3	S-754-20	.75" dia. x 4.0" standoff
6	S-175-20	1.0" dia. x .75" standoff
6	S-11-20	1.0" dia. x 1.0" standoff
6	S-12-20	1.0" dia. x 2.0" standoff
3	S-14-20	1.0" dia. x 4.0" standoff
4	CT-160-125-20	1.6" tension clamp with 1.25" post
8	CT-250-275-20	2.5" tension clamp with 2.75" post
4	RCD-20	Delrin resting cone
4	RPS-20	steel resting pin
2	AJ-50-20	.50" dia. adjustable jack stand
2	AJ-1-20	1.0" dia. adjustable jack stand
2	AS-1-20	1.0" adjustable slide
2	AS-3-20	3.0" adjustable slide
2	TB-751-20	tower block with base
1	TC-500200	20" x 8" x 1" component tray



Set C: (163) 1/4-20 components

QTY	PART #	DESCRIPTION
6	M-50-20	.50" dia. x 1.0" magnet
6	M-75-20	.75" dia. x 1.0" magnet
6	M-1-20	1.0" dia. x 1.0" magnet
2	MP-50-20	.50" dia. x 1.0" pin magnet
2	MP-75-20	.75" dia. x 1.0" pin magnet
4	S-37550-20	.375" dia. x .50" standoff
4	S-5050-20	.50" dia. x .50" standoff
8	S-5075-20	.50" dia. x .75" standoff
8	S-501-20	.50" dia. x 1.0" standoff
8	S-502-20	.50" dia. x 2.0" standoff
4	S-7550-20	.75" dia. x .50" standoff
8	S-7575-20	.75" dia. x .75" standoff
8	S-751-20	.75" dia. x 1.0" standoff
8	S-752-20	.75" dia. x 2.0" standoff
6	S-754-20	.75" dia. x 4.0" standoff
8	S-175-20	1.0" dia. x .75" standoff
8	S-11-20	1.0" dia. x 1.0" standoff
8	S-12-20	1.0" dia. x 2.0" standoff
6	S-14-20	1.0" dia. x 4.0" standoff
4	CT-160-125-20	1.6" tension clamp with 1.25" post
8	CT-250-275-20	2.5" tension clamp with 2.75" post
2	CT-375-325-20	3.75" tension clamp with 3.25" post
1	CTB-1-20	1.0" tension clamp bracket
6	RCD-20	Delrin resting cone
6	RPS-20	steel resting pin
1	APJ-20	adjustable pivot joint
3	AJ-50-20	.50" dia. adjustable jack stand
3	AJ-1-20	1.0" dia. adjustable jack stand
3	AS-1-20	1.0" adjustable slide
3	AS-3-20	3.0" adjustable slide
2	TB-751-20	tower block with base
1	T-112-20	1.0" sq. x 12" tower (1 Row, 4 Sides)
2	TC-500200	20" x 8" x 1" component tray



M8 CMM clamping kits

A comprehensive kit for holding aluminum, plastic, brass, titanium and other nonferrous parts. A kit includes a base plate with M8 threaded holes 15mm on center (choose from plate sizes listed below) and one set of components (A, B, or C).

To determine a part number for the desired kit:

- 1 Choose a base plate size.
- 2 Choose a component set.



KC-C2B-8 kit shown

KIT PART #	BASE PLATE SIZE	SET
KC-C1A-8	13mm x 300mm x 300mm	A
KC-C2A-8	13mm x 450mm x 450mm	A
KC-C3A-8	19mm x 600mm x 600mm	A
KC-C4A-8	19mm x 750mm x 750mm	A
KC-C5A-8	19mm x 750mm x 1020mm	A
KC-C6A-8	19mm x 900mm x 1200mm	A

KIT PART #	BASE PLATE SIZE	SET
KC-C1B-8	13mm x 300mm x 300mm	B
KC-C2B-8	13mm x 450mm x 450mm	B
KC-C3B-8	19mm x 600mm x 600mm	B
KC-C4B-8	19mm x 750mm x 750mm	B
KC-C5B-8	19mm x 750mm x 1020mm	B
KC-C6B-8	19mm x 900mm x 1200mm	B

KIT PART #	BASE PLATE SIZE	SET
KC-C1C-8	13mm x 300mm x 300mm	C
KC-C2C-8	13mm x 450mm x 450mm	C
KC-C3C-8	19mm x 600mm x 600mm	C
KC-C4C-8	19mm x 750mm x 750mm	C
KC-C5C-8	19mm x 750mm x 1020mm	C
KC-C6C-8	19mm x 900mm x 1200mm	C

Set A: (41) M8 components

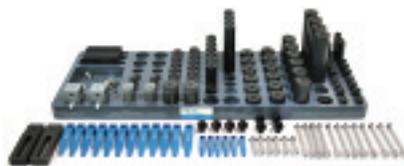
QTY	PART #	DESCRIPTION
3	S-1320-8	13mm dia. x 20mm standoff
3	S-1325-8	13mm dia. x 25mm standoff
3	S-1350-8	13mm dia. x 50mm standoff
3	S-1920-8	19mm dia. x 20mm standoff
3	S-1925-8	19mm dia. x 25mm standoff
3	S-1950-8	19mm dia. x 50mm standoff
3	S-2520-8	25mm dia. x 20mm standoff
3	S-2525-8	25mm dia. x 25mm standoff
3	S-2550-8	25mm dia. x 25mm standoff
2	SP-1325-8	13mm dia. x 25mm pin standoff
2	CT-40-30-8	40mm tension clamp with 30mm post
4	CT-64-70-8	64mm tension clamp with 70mm post
3	RCD-8	Delrin resting cone
1	AJ-19-8	19mm dia. adjustable jack stand
1	AS-70-8	70mm long adjustable slide
1	TC-500200	500mm x 200mm x 25mm component tray

Set B: (108) M8 components

QTY	PART #	DESCRIPTION
3	S-1315-8	13mm dia. x 15mm standoff
6	S-1320-8	13mm dia. x 20mm standoff
6	S-1325-8	13mm dia. x 25mm standoff
6	S-1350-8	13mm dia. x 50mm standoff
3	S-1915-8	19mm dia. x 15mm standoff
6	S-1920-8	19mm dia. x 20mm standoff
6	S-1925-8	19mm dia. x 25mm standoff
6	S-1950-8	19mm dia. x 50mm standoff
4	S-19100-8	19mm dia. x 100mm standoff
6	S-2520-8	25mm dia. x 20mm standoff
6	S-2525-8	25mm dia. x 25mm standoff
6	S-2550-8	25mm dia. x 50mm standoff
4	S-25100-8	25mm dia. x 100mm standoff
4	SP-1325-8	13mm dia. x 25mm pin standoff
6	CT-40-30-8	40mm tension clamp with 30mm post
12	CT-64-70-8	64mm tension clamp with 70mm post
4	RCD-8	Delrin resting cone
4	RCS-8	steel resting cone
2	AJ-19-8	19mm dia. adjustable jack stand
2	AJ-25-8	25mm dia. adjustable jack stand
3	AS-70-8	70mm long adjustable slide
2	TB-2530-8	tower block with base
1	TC-500200	500mm x 200mm x 25mm component tray

Set C: (150) M8 components

QTY	PART #	DESCRIPTION
4	S-1315-8	13mm dia. x 15mm standoff
8	S-1320-8	13mm dia. x 20mm standoff
8	S-1325-8	13mm dia. x 25mm standoff
8	S-1350-8	13mm dia. x 50mm standoff
4	S-1915-8	19mm dia. x 15mm standoff
8	S-1920-8	19mm dia. x 20mm standoff
8	S-1925-8	19mm dia. x 25mm standoff
8	S-1950-8	19mm dia. x 50mm standoff
6	S-19100-8	19mm dia. x 100mm standoff
8	S-2520-8	25mm dia. x 20mm standoff
8	S-2525-8	25mm dia. x 25mm standoff
8	S-2550-8	25mm dia. x 50mm standoff
6	S-25100-8	25mm dia. x 100mm standoff
6	SP-1325-8	13mm dia. x 25mm pin standoff
6	CT-40-30-8	40mm tension clamp with 30mm post
12	CT-64-70-8	64mm tension clamp with 70mm post
3	CT-95-83-8	95mm tension clamp with 83mm post
3	CT-100P-83-8	100mm tension clamp plunger with 83mm post
1	CTB-25-8	25mm tension clamp bracket
4	RCD-8	Delrin resting cone
4	RCS-8	steel resting cone
1	APJ-8	adjustable pivot joint
4	AJ-19-8	19mm dia. adjustable jack stand
3	AJ-25-8	25mm dia. adjustable jack stand
6	AS-70-8	70mm long adjustable slide
2	TB-2530-8	tower block with base
1	T-25300-8	25mm Sq. x 300mm tower (1 Row, 4 Sides)
2	TC-500200	500mm x 200mm x 25mm component tray



M8 CMM magnetic & clamping kits

A comprehensive kit for holding steel, aluminum, plastic, ferrous and other nonferrous parts. A kit includes a base plate with M8 threaded holes 15mm on center (choose from plate sizes listed below) and one set of components (A, B, or C).

To determine a part number for the desired kit:

- 1 Choose a base plate size.
- 2 Choose a component set.



KIT PART #	BASE PLATE SIZE	SET
KC-MC1A-8	13mm x 300mm x 300mm	A
KC-MC2A-8	13mm x 450mm x 450mm	A
KC-MC3A-8	19mm x 600mm x 600mm	A
KC-MC4A-8	19mm x 750mm x 750mm	A
KC-MC5A-8	19mm x 750mm x 1020mm	A
KC-MC6A-8	19mm x 900mm x 1200mm	A

KIT PART #	BASE PLATE SIZE	SET
KC-MC1B-8	13mm x 300mm x 300mm	B
KC-MC2B-8	13mm x 450mm x 450mm	B
KC-MC3B-8	19mm x 600mm x 600mm	B
KC-MC4B-8	19mm x 750mm x 750mm	B
KC-MC5B-8	19mm x 750mm x 1020mm	B
KC-MC6B-8	19mm x 900mm x 1200mm	B

KIT PART #	BASE PLATE SIZE	SET
KC-MC1C-8	13mm x 300mm x 300mm	C
KC-MC2C-8	13mm x 450mm x 450mm	C
KC-MC3C-8	19mm x 600mm x 600mm	C
KC-MC4C-8	19mm x 750mm x 750mm	C
KC-MC5C-8	19mm x 750mm x 1020mm	C
KC-MC6C-8	19mm x 900mm x 1200mm	C

Set A: (45) M8 components

QTY	PART #	DESCRIPTION
3	M-13-8	13mm dia. x 25mm magnet
3	M-19-8	19mm dia. x 25mm magnet
3	M-25-8	25mm dia. x 25mm magnet
3	S-1320-8	13mm dia. x 20mm standoff
3	S-1325-8	13mm dia. x 25mm standoff
3	S-1350-8	13mm dia. x 50mm standoff
3	S-1920-8	19mm dia. x 20mm standoff
3	S-1925-8	19mm dia. x 25mm standoff
3	S-1950-8	19mm dia. x 50mm standoff
3	S-2520-8	25mm dia. x 20mm standoff
3	S-2525-8	25mm dia. x 25mm standoff
3	S-2550-8	25mm dia. x 50mm standoff
3	CT-64-70-8	64mm tension clamp with 70mm post
3	RCD-8	Delrin resting cone
1	AJ-19-8	19mm dia. adjustable jack stand
1	AS-70-8	70mm long adjustable slide
1	TC-500200	500mm x 200mm x 25mm component tray



Set B: (112) M8 components

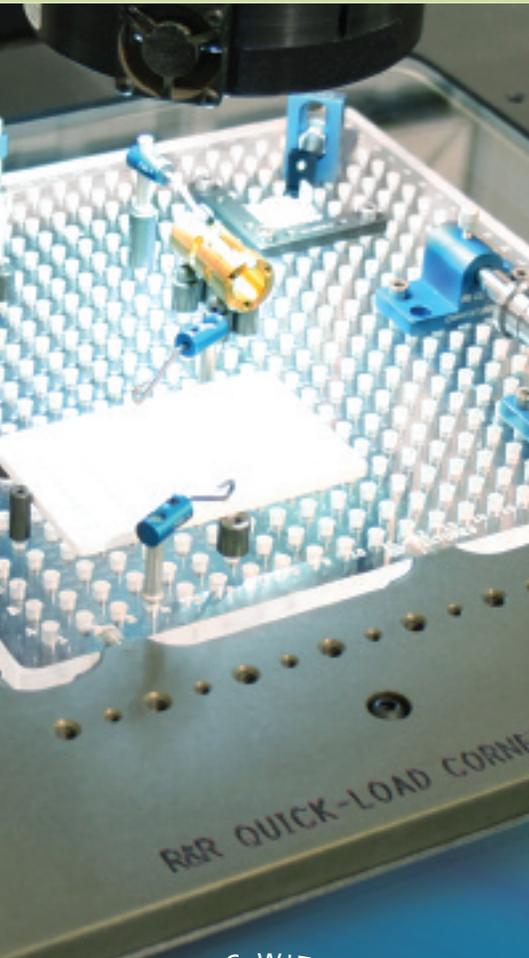
QTY	PART #	DESCRIPTION
4	M-13-8	13mm dia. x 25mm magnet
4	M-19-8	19mm dia. x 25mm magnet
4	M-25-8	25mm dia. x 25mm magnet
2	MP-13-8	13mm dia. x 25mm pin magnet
3	S-1315-8	13mm dia. x 15mm standoff
6	S-1320-8	13mm dia. x 20mm standoff
6	S-1325-8	13mm dia. x 25mm standoff
6	S-1350-8	13mm dia. x 50mm standoff
3	S-1915-8	19mm dia. x 15mm standoff
6	S-1920-8	19mm dia. x 20mm standoff
6	S-1925-8	19mm dia. x 25mm standoff
6	S-1950-8	19mm dia. x 50mm standoff
4	S-19100-8	19mm dia. x 100mm standoff
6	S-2520-8	25mm dia. x 20mm standoff
6	S-2525-8	25mm dia. x 25mm standoff
6	S-2550-8	25mm dia. x 50mm standoff
4	S-25100-8	25mm dia. x 100mm standoff
4	CT-40-30-8	40mm tension clamp with 30mm post
8	CT-64-70-8	64mm tension clamp with 70mm post
4	RCD-8	Delrin resting cone
4	RCS-8	steel resting cone
2	AJ-19-8	19mm dia. adjustable jack stand
2	AJ-25-8	25mm dia. adjustable jack stand
3	AS-70-8	70mm long adjustable slide
2	TB-2530-8	tower block with base
1	TC-500200	500mm x 200mm x 25mm component tray



Set C: (152) M8 components

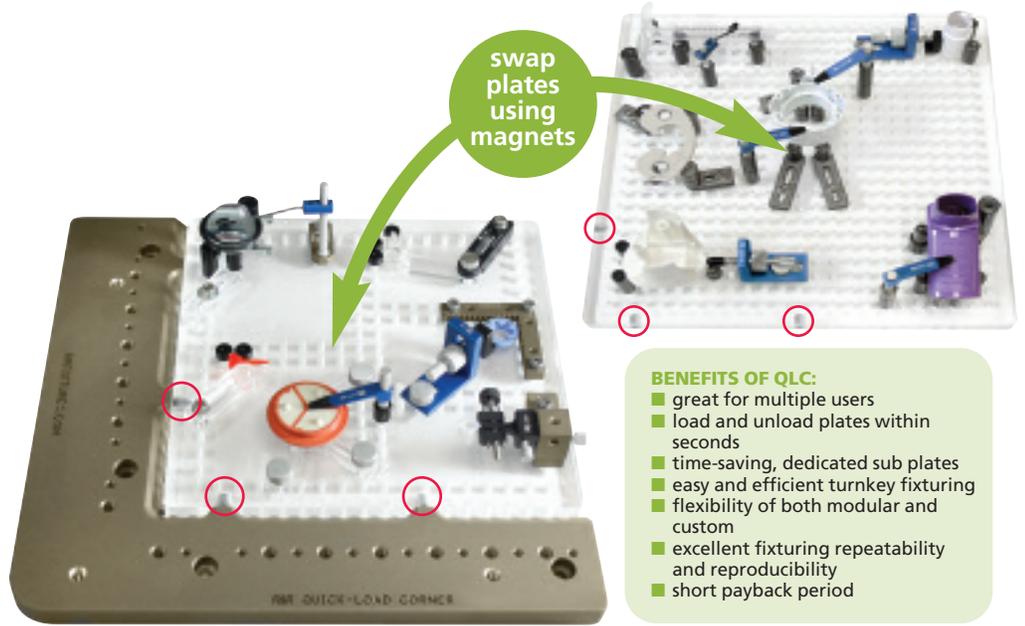
QTY	PART #	DESCRIPTION
6	M-13-8	13mm dia. x 25mm magnet
6	M-19-8	19mm dia. x 25mm magnet
6	M-25-8	25mm dia. x 25mm magnet
2	MP-13-8	13mm dia. x 25mm pin magnet
2	MP-19-8	19mm dia. x 25mm pin magnet
3	S-1315-8	13mm dia. x 15mm standoff
8	S-1320-8	13mm dia. x 20mm standoff
8	S-1325-8	13mm dia. x 25mm standoff
8	S-1350-8	13mm dia. x 50mm standoff
3	S-1915-8	19mm dia. x 15mm standoff
8	S-1920-8	19mm dia. x 20mm standoff
8	S-1925-8	19mm dia. x 25mm standoff
8	S-1950-8	19mm dia. x 50mm standoff
6	S-19100-8	19mm dia. x 100mm standoff
8	S-2520-8	25mm dia. x 20mm standoff
8	S-2525-8	25mm dia. x 25mm standoff
8	S-2550-8	25mm dia. x 50mm standoff
6	S-25100-8	25mm dia. x 100mm standoff
4	CT-40-30-8	40mm tension clamp with 30mm post
8	CT-64-70-8	64mm tension clamp with 70mm post
2	CT-95-83-8	95mm tension clamp with 83mm post
1	CTB-25-8	25mm tension clamp bracket
4	RCD-8	Delrin resting cone
4	RCS-8	steel resting cone
1	APJ-8	adjustable pivot joint
3	AJ-19-8	19mm dia. adjustable jack stand
3	AJ-25-8	25mm dia. adjustable jack stand
5	AS-70-8	70mm long adjustable slide
2	TB-2530-8	tower block with base
1	T-25300-8	25mm sq. x 300mm tower (1 Row, 4 Sides)
2	TC-500200	500mm x 200mm x 25mm component tray





Quick-Load Corner

MODULAR FIXTURING FOR VISION SYSTEMS



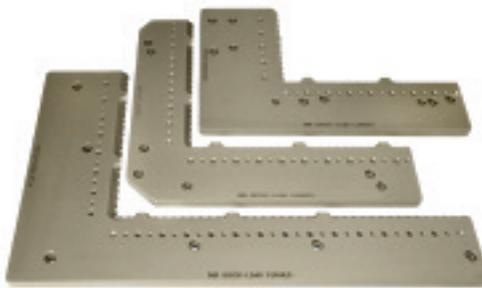
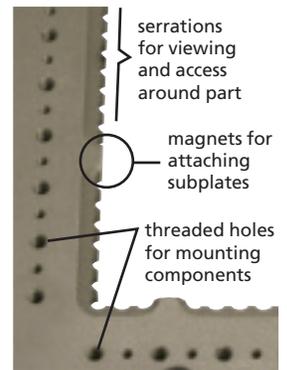
BENEFITS OF QLC:

- great for multiple users
- load and unload plates within seconds
- time-saving, dedicated sub plates
- easy and efficient turnkey fixturing
- flexibility of both modular and custom
- excellent fixturing repeatability and reproducibility
- short payback period

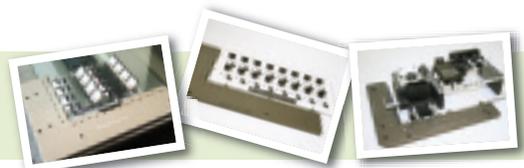
The R&R Quick-Load Corner (QLC) vision fixture is a fast, repeatable way to fixture parts for inspection consistently each and every time, increasing productivity and accuracy. QLC's will vary in size and shape depending on the vision machine they are made to fit.

Made to Hold Virtually Anything

With its multiple holes and various components, the QLC vision fixture kit has the versatility to hold anything you may need to inspect while using minimum contact or force on the part. Steel stampings or machined parts can be held using magnets, while other various clamping and fixturing methods are provided for aluminum, plastic, brass, titanium and other non-ferrous materials. Parts can be held vertically or horizontally depending on the orientation needed.



CUSTOMIZE: We can customize your QLC for any specific need. See our web site for more examples.





R&R fixturing components are small and can be arranged within a close circumference to hold and view the smallest of parts. This enables you to view the entire part without covering up any critical features.

Complete Viewing Access

Parts can also be elevated from the surface by using various components or nested directly against the QLC to give you the best edge

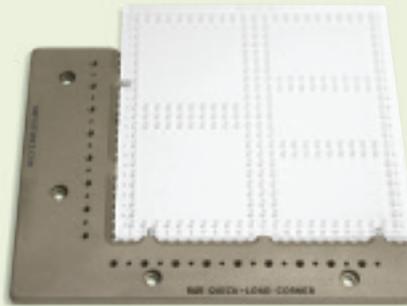


detection viewing. Smaller parts can be positioned and held within the clear area located in the middle of each acrylic fixture plate or window opening giving you complete viewing access to the part.

Multiple Fixture Plates Save Time

Whether you are checking prototype or production parts, the addition of multiple plates makes the inspection of parts quicker by being able to keep your parts setup temporarily on the plates, switching on and off the machine in seconds. Custom vision fixture plates can also be adapted to fit and locate on your QLC.

Choose from our QLC Multi-Window or Multi-Hole Vision Plates



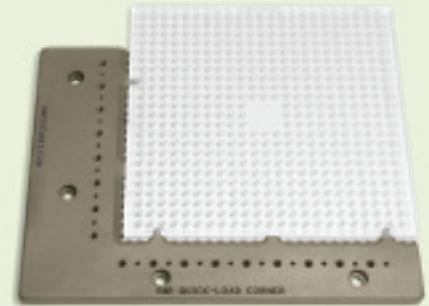
Multi-Window Vision Plates

MORE WINDOWS FOR THE
CLEAREST VIEW OF SMALL PARTS

Our multi-window plates help you view your parts clearly without any obstructions, parts can be secured to the vision fixture base plates using various R&R Fixture components. Multi-window base plates can accommodate numerous parts at one time with different size window options.

Base Plate Size mm (inch)	Window openings
13 x 200 x 200	5
13 x 250 x 150	3
13 x 250 x 250 (.50 x 10 x 10)	5
13 x 400 x 400 (.50 x 16 x 16)	7

- Custom plate sizes available upon request.
- Window size varies depending on size of fixture plate.
- 1/4-20 or M4 thread available.



Multi-Hole Vision Plates

SETUP AND CHECK AS MANY PARTS
AS POSSIBLE AT ONE TIME

Our multi-hole vision plate is ideal for use with all sizes of parts and can be used to fixture an unlimited number of parts on the plate at one time, secure with using our R&R Fixturing components. Ideal for anyone that has a variety of shapes and sizes of parts that need fixturing.

Base Plate Size mm (inch)
13 x 150 x 150 (.50 x 6 x 6)
13 x 200 x 200
13 x 250 x 150
13 x 250 x 250 (.50 x 10 x 10)

- Clear area in center of plate with no holes.
- Custom plate sizes available upon request.
- 1/4-20 or M4 thread available.

Specifically Designed to Fit

The QLC will vary in size depending on your vision machine. Each QLC is made to fit your specific machine and its mounting hole location. Magnets are designed into each QLC to connect to the steel pins pressed into each acrylic fixture plate, giving you the ability to locate your fixture in the exact corner position on the QLC every time.

The alpha-numeric plates and labeled components enable the user to set parts up the same way every time. Acrylic fixture plates are available with either a multi-window or multi-hole threaded hole pattern containing M4 (10mm on center) or 1/4-20 threaded holes (.50" on center). An M4 thread size is recommended for parts that are 75mm x 75mm (3" x 3") or smaller.

M4 QLC vision clamping kits

The M4 QLC vision kit is a comprehensive kit for holding plastic, aluminum, rubber and other nonferrous parts. It is ideal for parts that fit in a 75mm x 75mm cube.

To determine a part number for the desired kit:

- 1 Choose a QLC frame to fit your vision machine.
- 2 Choose a base plate type (multi-hole or multi-window) and size.
- 3 Choose a component set.

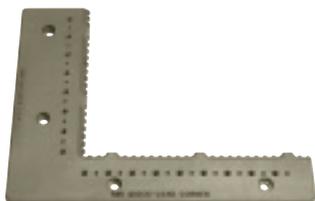
- Each QLC is designed to fit your specific machine.
- Specify vision machine make and model number when ordering.
- Each QLC attaches to the lower left hand corner of the vision machine.



multi-hole plate
MORE HOLES for attaching more components



multi-window plate
MORE WINDOWS for optimal viewing of small parts



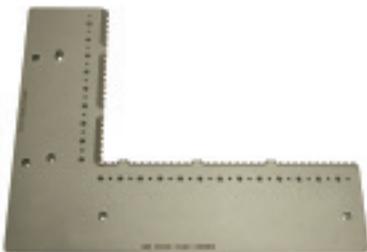
QLC1 frame
For vision machines SMALLER than 400mm x 400mm

Kits with QLC1 frame and multi-hole base plate

KIT PART #	BASE PLATE SIZE	SET
QLC1-PV1-A-4	13mm x 150mm x 150mm	A
QLC1-PV1-B-4	13mm x 150mm x 150mm	B
QLC1-PV2-A-4	13mm x 200mm x 200mm	A
QLC1-PV2-B-4	13mm x 200mm x 200mm	B
QLC1-PV3-A-4	13mm x 250mm x 150mm	A
QLC1-PV3-B-4	13mm x 250mm x 150mm	B
QLC1-PV4-A-4	13mm x 250mm x 250mm	A
QLC1-PV4-B-4	13mm x 250mm x 250mm	B

Kits with QLC1 frame and multi-window base plate

KIT PART #	BASE PLATE SIZE	SET
QLC1-PVW1-A-4	13mm x 200mm x 200mm	A
QLC1-PVW1-B-4	13mm x 200mm x 200mm	B
QLC1-PVW2-A-4	13mm x 250mm x 150mm	A
QLC1-PVW2-B-4	13mm x 250mm x 150mm	B
QLC1-PVW3-A-4	13mm x 250mm x 250mm	A
QLC1-PVW3-B-4	13mm x 250mm x 250mm	B
QLC1-PVW4-A-4	13mm x 400mm x 400mm	A
QLC1-PVW4-B-4	13mm x 400mm x 400mm	B



QLC2 frame
For vision machines LARGER than 450mm x 450mm

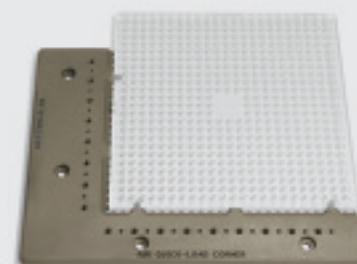
Kits with QLC2 frame and multi-hole base plate

KIT PART #	BASE PLATE SIZE	SET
QLC2-PV1-A-4	13mm x 150mm x 150mm	A
QLC2-PV1-B-4	13mm x 150mm x 150mm	B
QLC2-PV2-A-4	13mm x 200mm x 200mm	A
QLC2-PV2-B-4	13mm x 200mm x 200mm	B
QLC2-PV3-A-4	13mm x 250mm x 150mm	A
QLC2-PV3-B-4	13mm x 250mm x 150mm	B
QLC2-PV4-A-4	13mm x 250mm x 250mm	A
QLC2-PV4-B-4	13mm x 250mm x 250mm	B

Kits with QLC2 frame and multi-window base plate

KIT PART #	BASE PLATE SIZE	SET
QLC2-PVW1-A-4	13mm x 200mm x 200mm	A
QLC2-PVW1-B-4	13mm x 200mm x 200mm	B
QLC2-PVW2-A-4	13mm x 250mm x 150mm	A
QLC2-PVW2-B-4	13mm x 250mm x 150mm	B
QLC2-PVW3-A-4	13mm x 250mm x 250mm	A
QLC2-PVW3-B-4	13mm x 250mm x 250mm	B
QLC2-PVW4-A-4	13mm x 400mm x 400mm	A
QLC2-PVW4-B-4	13mm x 400mm x 400mm	B

A kit includes an acrylic base plate with M4 threaded holes 10mm on center, a quick-load corner and one set of components (A or B).



QLC1-PV2-B-4
kit shown

Component Set A (47) M4 components

QTY	PART #	DESCRIPTION
3	S-610-4	6mm dia. x 10mm standoff
3	S-625-4	6mm dia. x 25mm standoff
3	S-95-4	9mm dia. x 5mm standoff
3	S-910-4	9mm dia. x 10mm standoff
3	S-920-4	9mm dia. x 20mm standoff
3	S-925-4	9mm dia. x 25mm standoff
3	S-1210-4	12mm dia. x 10mm standoff
3	S-1225-4	12mm dia. x 25mm standoff
2	SP-610-4	6mm dia. x 10mm pin standoff
2	SP-910-4	9mm dia. x 10mm pin standoff
2	CTT-40-25-4	40mm tension clamp with coated soft tip, 25mm post
2	CWT-25-25-4	25mm wire clamp with coated soft tip, 25mm post
2	CWT-50-50-4	50mm wire clamp with coated soft tip, 50mm post pusher clamp
1	CP-4	micro vise clamp with base
1	CVM-B-4	spring pusher standoff clamp
4	RPA-4	aluminum resting pin
1	VC-5050-4	50mm x 50mm corner viewer
1	AJ-9-4	9mm dia. adjustable jackstand
1	AS-30-4	30mm long adjustable slide
1	ASA-45-4	45mm long adjustable acrylic slide base
1	TB-1619-4	tower block with base
1	TC-300190-4	300mm x 190mm x 25mm component tray

Component Set B (84) M4 components

QTY	PART #	DESCRIPTION
3	S-65-4 *	6mm dia. x 5mm standoff
6	S-610-4	6mm dia. x 10mm standoff
6	S-625-4	6mm dia. x 25mm standoff
3	S-95-4	9mm dia. x 5mm standoff
6	S-910-4	9mm dia. x 10mm standoff
6	S-920-4	9mm dia. x 20mm standoff
6	S-925-4	9mm dia. x 25mm standoff
6	S-1210-4	12mm dia. x 10mm standoff
6	S-1225-4	12mm dia. x 25mm standoff
4	SP-610-4	6mm dia. x 10mm pin standoff
4	SP-910-4	9mm dia. x 10mm pin standoff
4	CTT-40-25-4	40mm tension clamp with coated soft tip, 25mm post
4	CWT-25-25-4	25mm wire clamp with coated soft tip, 25mm post
4	CWT-50-50-4	50mm wire clamp with coated soft tip, 50mm post pusher clamp
1	CP-4	micro vise clamp with base
1	CVM-B-4	spring pusher standoff clamp
4	RPA-4	aluminum resting pin
1	VC-5050-4	50mm x 50mm corner viewer
2	AJ-9-4	9mm dia. adjustable jackstand
2	AS-30-4	30mm long adjustable slide
2	ASA-45-4	45mm long adjustable acrylic slide base
1	TB-1619-4	tower block with base
1	TC-300190-4	300mm x 190mm x 25mm component tray

* = does not have a threaded top



1/4-20 QLC vision clamping kits

The 1/4-20 QLC vision kit is a comprehensive kit for holding plastic, aluminum, rubber and other nonferrous parts.

To determine a part number for the desired kit:

- 1 Choose a QLC frame to fit your vision machine.
- 2 Choose a base plate type (multi-hole or multi-window) and size.
- 3 Each kit includes component set A.

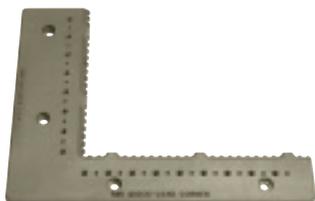
- Each QLC is designed to fit your specific machine.
- Specify vision machine make and model number when ordering.
- Each QLC attaches to the lower left hand corner of the vision machine.



multi-hole plate
MORE HOLES for attaching more components



multi-window plate
MORE WINDOWS for optimal viewing of small parts



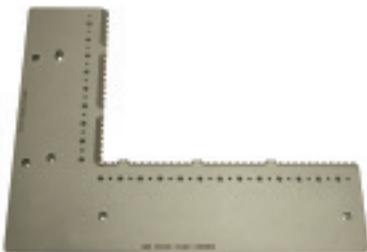
QLC1 frame
For vision machines SMALLER than 400mm x 400mm

Kits with QLC1 frame and multi-hole base plate

KIT PART #	BASE PLATE SIZE	SET
QLC1-PV1-A-20	.50" x 6" x 6"	A
QLC1-PV2-A-20	.50" x 10" x 10"	A

Kits with QLC1 frame and multi-window base plate

KIT PART #	BASE PLATE SIZE	SET
QLC1-PW1-A-20	.50" x 10" x 10"	A
QLC1-PW2-A-20	.50" x 16" x 16"	A



QLC2 frame
For vision machines LARGER than 450mm x 450mm

Kits with QLC2 frame and multi-hole base plate

KIT PART #	BASE PLATE SIZE	SET
QLC2-PV1-A-20	.50" x 10" x 10"	A

Kits with QLC2 frame and multi-window base plate

KIT PART #	BASE PLATE SIZE	SET
QLC2-PW1-A-20	.50" x 10" x 10"	A
QLC2-PW2-A-20	.50" x 16" x 16"	A

A kit includes an acrylic base plate with 1/4-20 threaded holes .50" on center, a quick-load corner and one set of components (A).



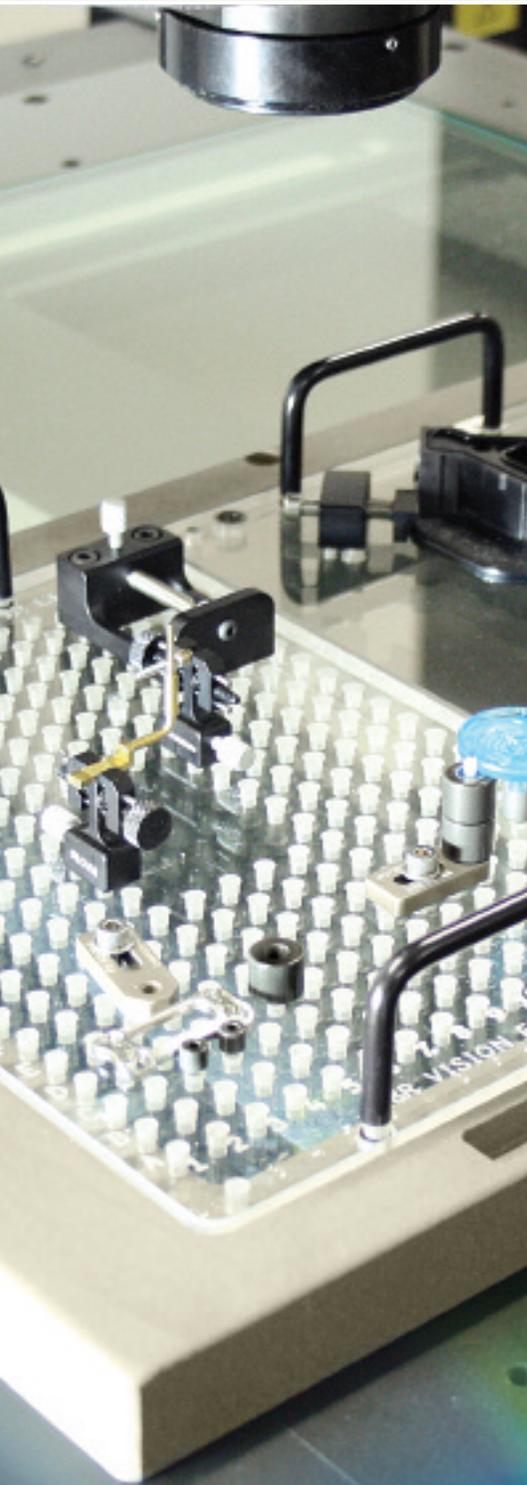
QLC1-PV2-A-20 kit shown

Component Set A (53) 1/4-20 components

QTY	PART #	DESCRIPTION
3	S-2550-20	.25" dia. x .50" standoff *
3	S-251-20	.25" dia. x 1.0" standoff *
3	S-37525-20	.375" dia. x .25" standoff *
3	S-37550-20	.375" dia. x .50" standoff
3	S-37575-20	.375" dia. x .75" standoff
3	S-3751-20	.375" dia. x 1.0" standoff
3	S-5050-20	.50" dia. x .50" standoff
3	S-5075-20	.50" dia. x .75" standoff
2	SP-2550-20	.25" dia. x .50" pin standoff
2	SP-37550-20	.375" dia. x .50" pin standoff
1	CSPS-751-20	.75" dia. x 1" spring pusher standoff clamp
4	CTT-160-125-20	1.6" tension clamp with coated soft tip, 1.25" post
4	CWT-1-1-20	1.0" wire clamp with coated soft tip, 1.0" post
4	CWT-2-2-20	2.0" wire clamp with coated soft tip, 2.0" post
1	CP-20	1/4-20 pusher clamp
4	RPS-20	steel resting pin
1	VC-33-20	3.25" x 3.25" corner viewer
1	CVM-B-20	micro vise clamp with base
1	AJ-50-20	.50" dia. adjustable jackstand
1	ASA-2-20	2.0" long adjustable acrylic slide
1	AS-1-20	1.0" long adjustable slide
1	TB-751-20	tower block with base
1	TC-300190-20	300mm x 190mm x 25mm component tray

* = does not have a threaded top





Interchangeable Vision Fixture

IDEAL FOR MACHINES 450X450 OR LARGER

The R&R interchangeable vision fixture (IVF) makes holding parts an easy and efficient turnkey fixturing method. Easily switch multiple fixturing plates on and off of the aluminum frame mounted to your vision system. Fixture exchange can be accomplished in a matter of only seconds, eliminating down time and allowing continuous inspection and repeatability on your vision machine.

Designed to Fit

The anodized aluminum frame and acrylic fixture plates are custom made to fit and mount to your specific vision machine taking into account the mounting of your probe rack and calibration artifacts.

Built to Save Time

Fixturing plates can be different sizes, depending on the size of your frame, the size of your parts and how many parts you are inspecting. Fixture plates are designed to use all, 1/2, 1/4, or 1/8 of the frame's total size and are equipped with handles to load on to the frame over a dowel pin in a repeatable position each time. Modular plates come with your choice of multi-hole or multi-window threaded hole pattern.

Hold Parts with Modular or Custom Fixtures

Interchangeable fixture plates can be modular with M4 or 1/4-20 threaded holes (10mm or .50" on center) or R&R can design and build a custom fixture for your parts. A combination of both modular and custom fixture plates can be made to fit the same IVF frame, allowing you the most flexibility. Not all parts are created equal — some are better suited for custom fixturing depending on the orientation, complexity of the part and the frequency of the inspection.

Size Matters

Inspect your parts using minimum contact on the part with R&R's light clamping force components. With multiple hole spacing and smaller fixturing components, parts can be located and positioned in a tight circumference on the fixturing plates making it easy to hold the smallest of parts.

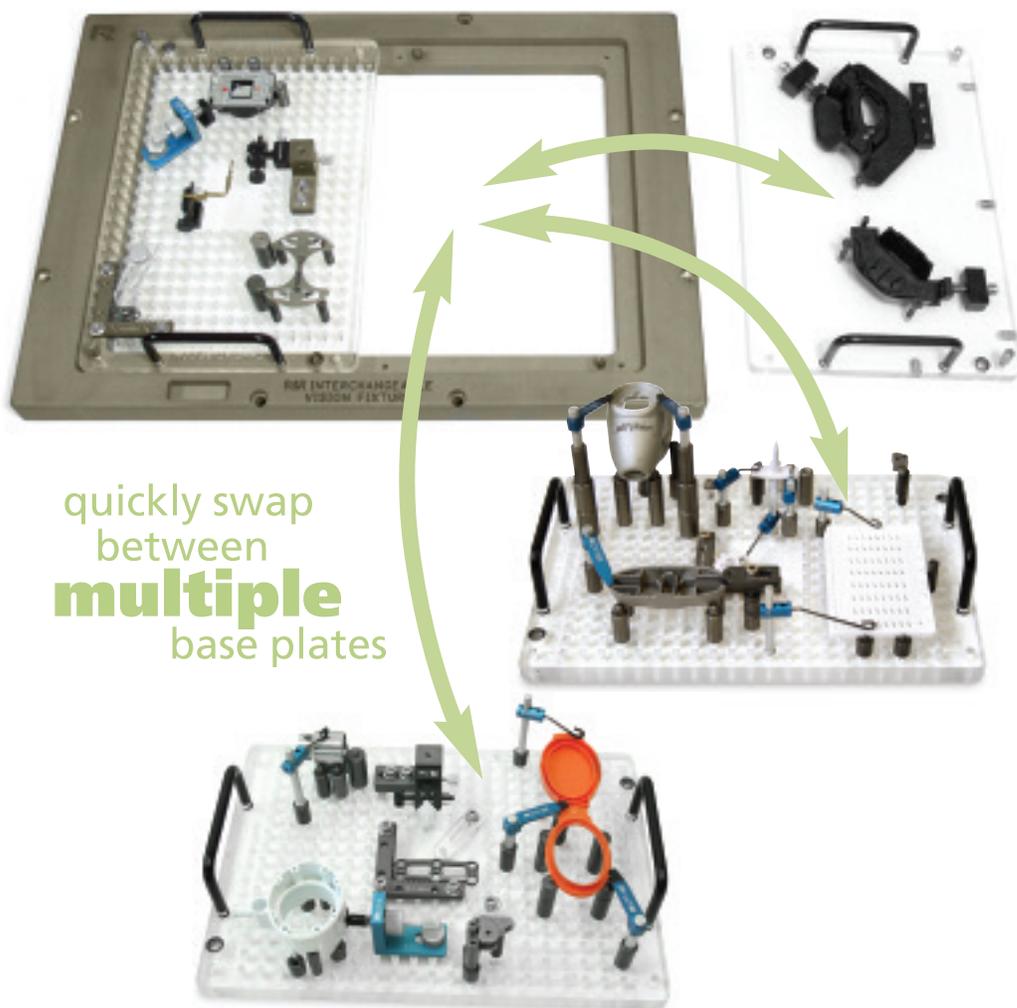
No Downtime Waiting for Fixturing

Increase productivity by adding more fixturing plates. While one fixture is running, another can be loaded with parts or built up, keeping your vision system continuously running.

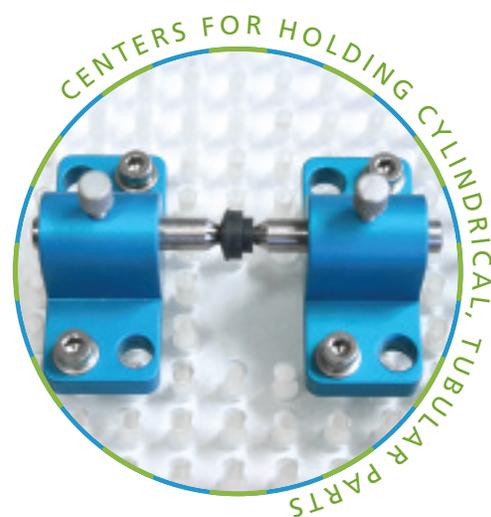
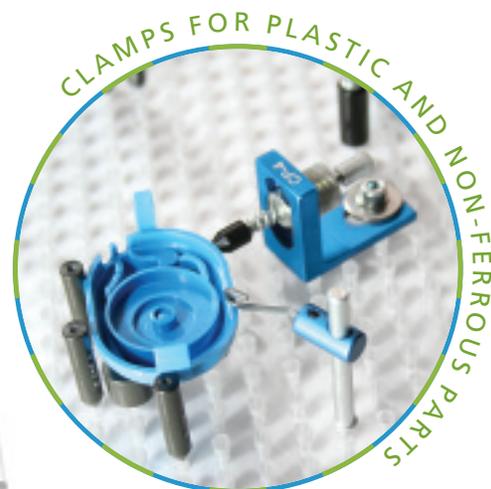
bottom line improves your gage R&R

CUSTOMIZE: We can customize your IVF for any specific need. See our web site for more examples.





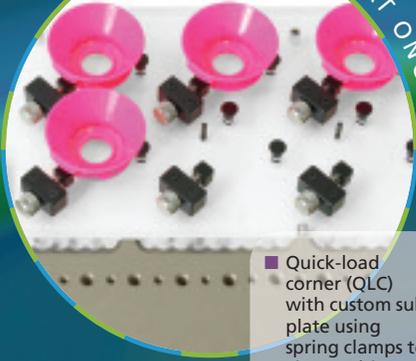
quickly swap
between
multiple
base plates



Key Features of the IVF Fixture:

- alpha-numeric plates and labeled components allow operator to record the fixture setup
- smaller components allow you to view the entire part without covering up critical features
- repeatable from one operator or time to another
- multiple parts can be setup on the fixture at one time
- placing parts within a clear area on plate or up off surface of the plate allows for clear view of entire part with no edge detection interference

HOLD MULTIPLE PARTS AT ONCE



■ Quick-load corner (QLC) with custom sub plate using spring clamps to view multi stage parts.

LIGHTWEIGHT AND RIGID FIXTURES



■ This fixture was built to restrain and clamp a sheet metal part into position.



■ Fixture to hold various length and sizes of cylindrical shafts.

Custom Fixtures

WE CAN DESIGN AND BUILD IT FOR YOU

When your application calls for something more specialized, we can provide you with special details and fixtures for your CMM or vision system. Let our 20+ years of experience and knowledge in the CMM and vision industry create a fixture for your specific needs.

Knowledge and Experience Counts

Our engineers create innovative fixtures backed with their knowledge and experience dealing with touch probes and backlighting. They work closely with our customers from the beginning to the end of a project to make sure that our customers are seeing and understanding what they will be getting. Our engineers work hard to get it right the first time, allowing for probe clearances and accessing the part in the most efficient way without over-fixturing.

We Take It All Into Consideration

Our engineers will work with you to first conceive and then fully design the best fixture for your application. All aspects of your specific job are taken into consideration:

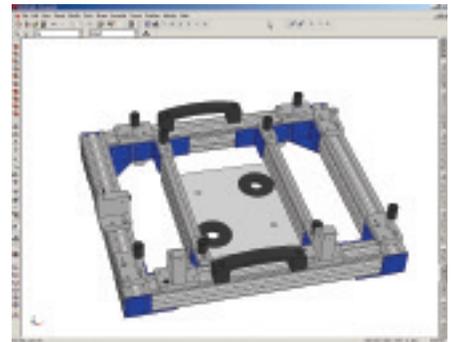
- how the part will be checked – CMM with touch probe or backlight with vision system
- how frequently the part will be checked
- the type of material, size and shape
- dimensions and tolerances of the part
- datums or orientation of part
- weight and size of fixture

Not All Parts Are Created Equal

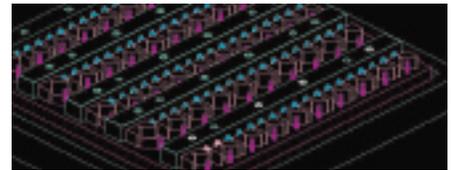
Our engineering and design team have worked with numerous companies from aerospace, automotive, appliance, electronic, industrial and medical industries to design and build fixtures for a variety of parts and applications.

One Stop Shop

We specialize in both CMM and vision fixturing. For quoting and technical assistance on custom fixtures, simply send pictures, parts, prints, or CAD files to us to review for your particular application. We are the only company dedicated to providing custom and modular fixturing for CMMs and vision systems.



■ The most current CAD software is utilized for design and engineering. Most CAD formats are supported (ex: IGES, STEP, SAT, CATIA).



■ A multi-station fixture with spring-loaded Vs to secure different diameters (shown in dwg).

customer-focused,
quality-driven
fixturing

create turnkey fixturing from concept thru build

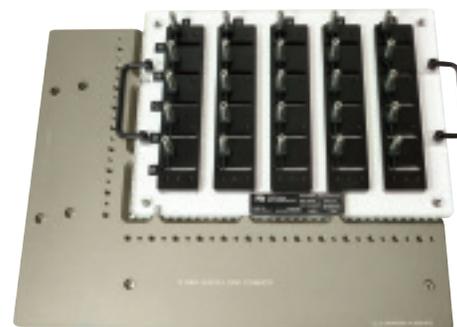
For more examples visit
www.rrfixtures.com



■ Fixture for holding 3 different sizes of parts, four at a time.



■ Fixture to hold up to 16 parts vertically at one time.



■ Quick-load corner (QLC) with custom sub plate to hold 25 parts for inspection using the machine's backlight.

if you can make it
we can hold it



■ Large part to be held and restrained against datums, using our lightweight frame XTensions.



■ Fixture for holding complex geometric part using hold down clamps.

■ Interchangeable vision fixture (IVF) made to hold 32 parts and rotate 360 degrees for complete inspection of part.



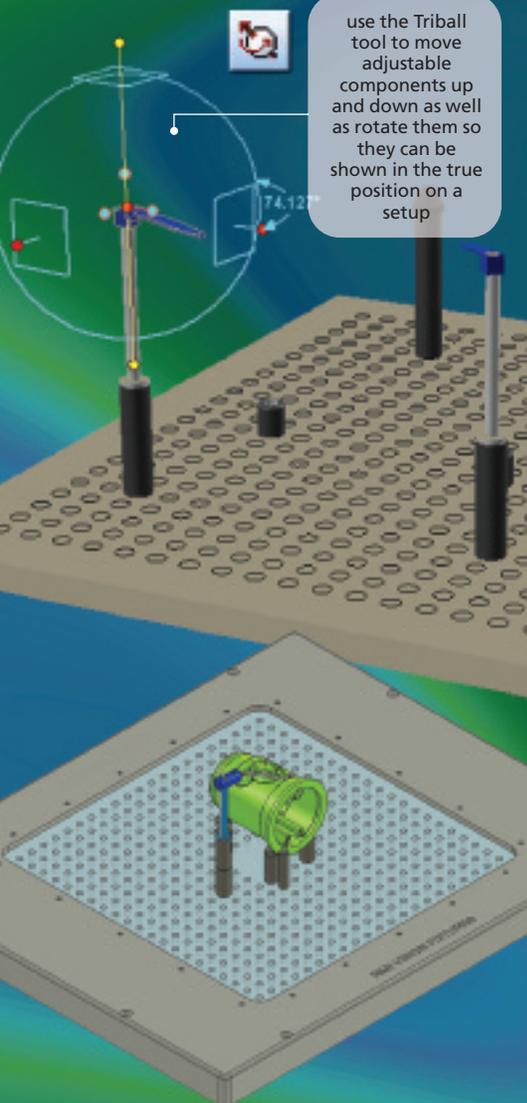
■ Fixture for holding a part in 3 different orientations.

Document Fixtures in a Snap

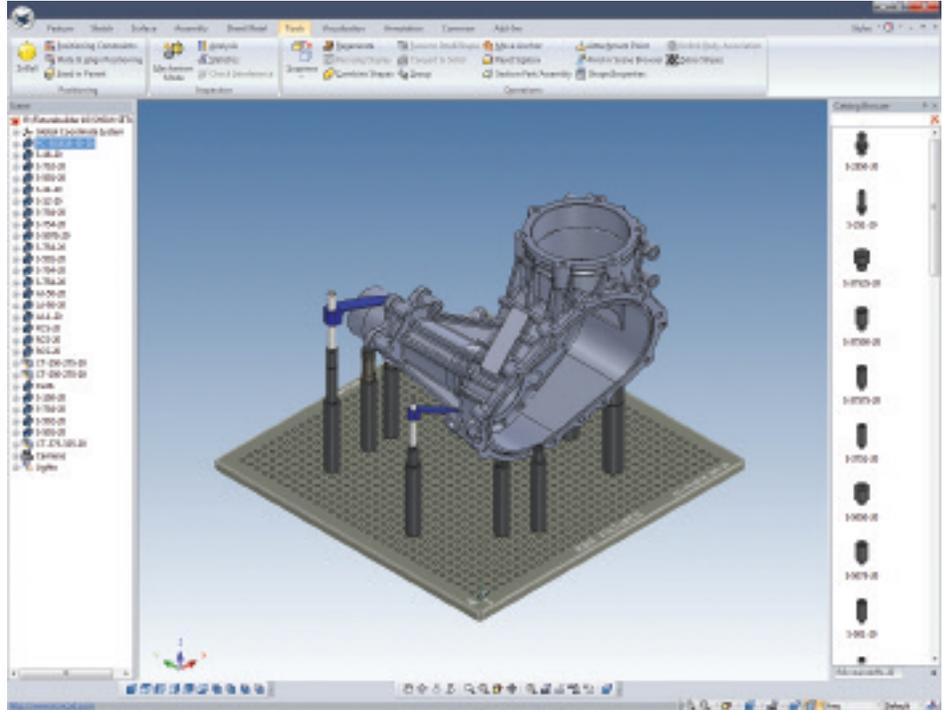
MODULAR FIXTURING WITHIN CAD



components are organized by thread size in the catalog browser

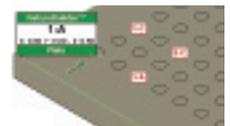


use the Triball tool to move adjustable components up and down as well as rotate them so they can be shown in the true position on a setup



FixtureBuilder is a 3D fixture modeling software from R&R that is integrated with the CAD software from IronCad. FixtureBuilder is used for documenting R&R Fixture setups and also enables offline programming of the fixture. You don't have to be a CAD engineer to use FixtureBuilder—it's as easy to use as our modular R&R Fixture is. Programming part setups into your CMM or vision system has never been quicker and easier!

automatically aligns the component while indicating the hole position on the plate as well as the X, Y, and Z coordinates.



Adjustable components such as jack stands and tension clamps can also be adjusted with the use of the Triball tool to rotate or swivel into position on a part just as they would be in the real setup.

Drag and Snap

Once the actual part setup is finalized, you can begin to build the fixture setup within FixtureBuilder. Start by selecting your specific R&R base plate then simply drag and snap components from the tabbed catalogs onto the plate into the desired positions.

As components are moved out onto the base plate, IronCad's SmartSnap® technology

At Your Fingertips

All standard base plates and components are organized into convenient tabbed catalogs grouped by thread size (1/4-20, M8, M4). The exact R&R component can be selected from the catalog and snapped into its proper alignment on the base plate.



■ Within the catalogs each plate and component is labeled with its part number for easy identification.

Automatic Build List

Once the setup is complete, you can create a step-by-step build list with just one click. A bill of materials is also generated as well as preview images of the completed fixture. This listing of information can be edited in Microsoft Word to customize the header with your company's information, part name or number, metrology technician, and any other pertinent information.

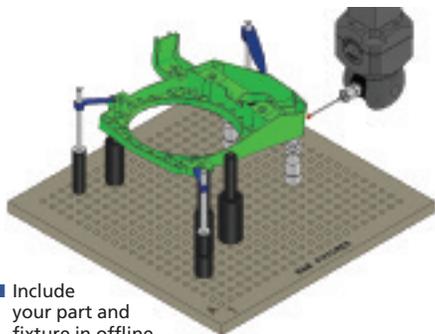
Import and Export from CAD

Your part's CAD file can be imported into FixtureBuilder so that it can be positioned onto the setup. Then the entire setup, along with your part, can be exported into your CMM or vision software. FixtureBuilder supports most common CAD formats including IGES, SAT, STEP, and AutoCAD. PRO-E and CATIA are also available as add-on modules.



Less Time Offline

FixtureBuilder can export the setup for offline programming. You can export the part and the fixture together. This can greatly reduce editing in an offline program where fixturing components could possibly interfere with probe clearances.



- Include your part and fixture in offline programming.

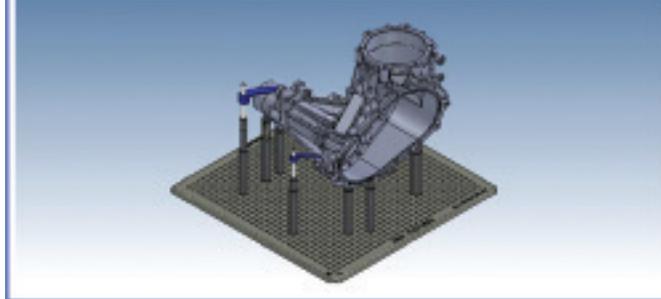
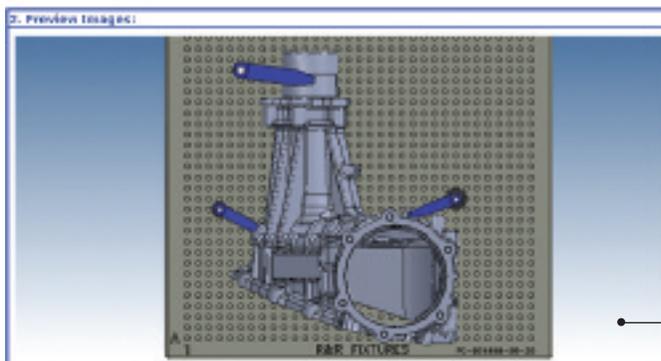
You can also choose to export just the fixture setup and then bring your part into the fixture within your own CMM or vision system software.



1. Setup Instructions:

Instructions For Assembling ungrouped items:

- 1.1. START WITH PLATE "13" x 18" x .30 w/1/4-20 holes 1/2 on center".
- 1.2. Attach ".75 DIA x 4" STANDOFF" onto plate at **6-2** followed by: 1 - ".50 DIA x 2.0" STANDOFF", 0 - ".50 DIA x 1.0" STANDOFF"
 - 1.2.1. Attach "3.25" Tension Clamp with 3.25" post w/ 1/4-20 thread" onto previous item at location shown
- 1.3. Attach ".75 DIA x 4" STANDOFF" onto plate at **11-2** followed by: 1 - ".30" Adjustable Jackstand with 1/4-20 Thread"
 - 1.3.1. Attach "STEEL COING" onto previous item at location shown
- 1.4. Attach ".75 DIA x 4" STANDOFF" onto plate at **64-2** followed by: 1 - ".50" Adjustable Jackstand with 1/4-20 Thread"
 - 1.4.1. Attach "STEEL COING" onto previous item at location shown
- 1.5. Attach ".75 DIA x 4" STANDOFF" onto plate at **4-8** followed by: 1 - ".50 DIA x 1.0" STANDOFF"
 - 1.5.1. Attach "2.5" Tension Clamp with 2.75" post w/ 1/4-20 thread" onto previous item at location shown
- 1.6. Attach ".75 DIA x 4" STANDOFF" onto plate at **13-6** followed by: 1 - ".50 DIA x .75 STANDOFF"
 - 1.6.1. Attach "STEEL COING" onto previous item at location shown
- 1.7. Attach ".75 DIA x 4" STANDOFF" onto plate at **25-6** followed by: 1 - ".75 DIA x 2" STANDOFF", 1 - ".75" Adjustable Jackstand with 1/4-20 Thread", 1 - ".75 DIA x .30 STANDOFF"
- 1.8. Attach ".75 DIA x 4" STANDOFF" onto plate at **28-8** followed by: 1 - ".75 DIA x 2" STANDOFF", 1 - ".50 DIA x 1.0" STANDOFF"
 - 1.8.1. Attach "2.5" Tension Clamp with 2.75" post w/ 1/4-20 thread" onto previous item at location shown



3. Bill of Materials:

Part Number	Quantity	Description
PC-593918-50-20	1	18" x 18" x .30 w/1/4-20 holes 1/2 on center
9-26-28	1	1" DIA x 4" STANDOFF
9-792-28	1	.75 DIA x 2" STANDOFF
9-905-28	3	.38 DIA x 1.0" STANDOFF
9-94-28	1	1" DIA x 4" STANDOFF
9-92-28	1	1" DIA x 2" STANDOFF
9-754-28	6	.75 DIA x 4" STANDOFF
9-9075-20	1	.58 DIA x .75 STANDOFF
R3-98-20	2	.38" Adjustable Jackstand with 1/4-20 Thread
R3-1-20	1	1" Adjustable Jackstand with 1/4-20 Thread
R29-20	3	STEEL COING
9-958-28	1	1" DIA x .50 STANDOFF
9-902-28	1	.58 DIA x 2.0" STANDOFF
CT-256-275-28	2	2.5" Tension Clamp with 2.75" post w/ 1/4-20 thread
CT-375-325-28	1	3.25" Tension Clamp with 3.25" post w/ 1/4-20 thread



- With a click of this button, documenting setups has never been easier.

the build list includes setup instructions that gives the name and base plate location of each component used within the setup

views of the finished setup are shown

the bill of materials lists the part number, quantity and description of the plate and components used

stay in compliance with ISO and QS9000

Free Demo CD
616-847-6045
www.rfixtures.com



VERTICAL BENEFITS:

- ease of use
- unrestricted probe paths
- minimal tools used for part setup
- rigid and accurate
- low cost
- position part in its natural state or body line



Extending In New Directions

XTENSIONS FOR LARGE AND VERTICAL FIXTURING

Have you ever wished that someone would introduce a simple and inexpensive solution for fixturing large and vertical parts? R&R has done just that. This new concept in modular fixturing for CMMs uses aluminum extrusions, called XTensions. They are used along with standard R&R components for building a setup vertically or creating a support structure to fixture the part.

XTensions are easily connected to standard R&R base plates for ease of documenting your fixture setup. An assortment of connectors and bracing components will accomplish this. XTensions can accommodate both English and metric R&R components (adapters are available for metric components).

Standard R&R components such as standoffs, clamps, and magnets can be utilized for building a fixture setup on the XTensions. The components can be mounted directly to the XTensions with the use of special T-nuts. Small grid plates can also be mounted to the XTensions when multiple components are needed within the same area on the part. The grid plates can slide up and down the XTensions and then be secured in place with the special T-nuts.

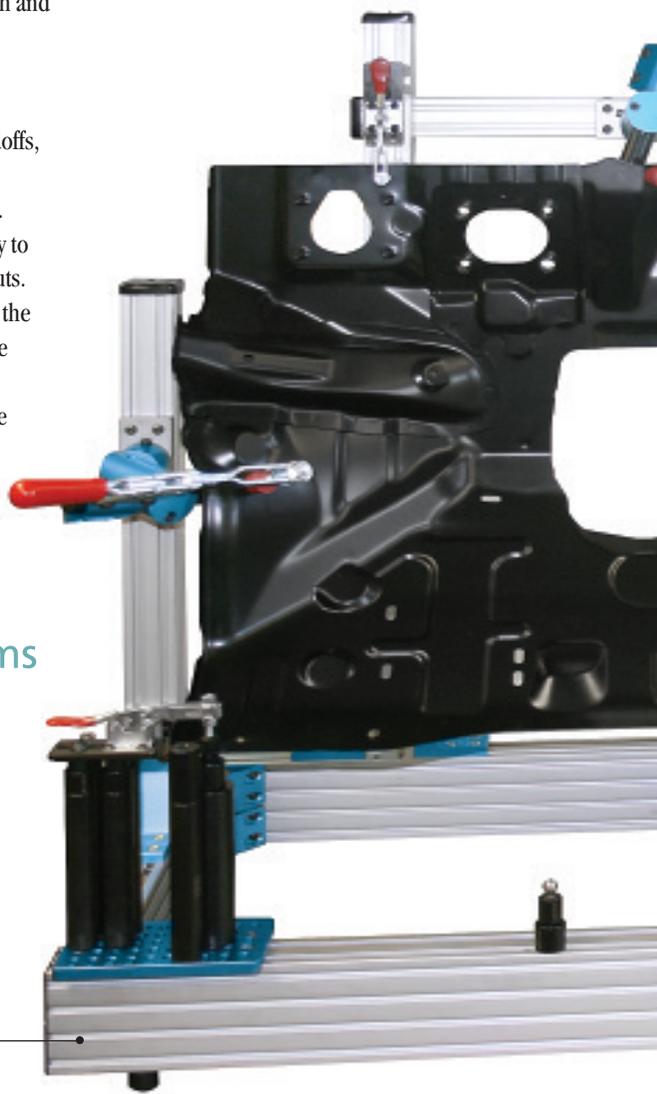
solving your
largest
fixturing problems

FIXTURE STRUCTURE BENEFITS:

- lightweight
- low cost
- unlimited size
- reusable
- unrestricted probe paths
- increased rigidity using cross members

Making Large Parts Manageable

XTensions were designed for supporting very large or vertical parts, particularly if those parts are inspected on a regular basis. XTensions are a new concept in simple and inexpensive modular fixturing for CMMs. They are aluminum extrusions that are used along with standard R&R components for building a setup vertically or creating a support structure to fixture a part. Setup is simple with minimal tools needed to produce a rigid and accurate fixture with unrestricted probe path.



Reaching New Heights

XTensions are available in lengths of up to 60" and beyond to accommodate parts vertically. Once the upright XTensions have been mounted to a base plate, bracing options are added depending upon the height of the setup as well as cross supports. XTensions can also be used perpendicular to the main XTension supports for additional attachment points.

Standard Sizes and Lengths

	3"	6"	12"	18"	24"	30"	36"	42"	48"	60"
1"x 1"	■	■	■							
1"x 2"		■	■	■	■					
2"x 2"		■	■	■	■	■	■	■	■	■
3"x 3"				■			■		■	■

Custom lengths are also available.

Fixture Structures

To make your largest parts more manageable, a fixture structure can be built from the aluminum XTensions. Upright XTensions are then added, along with fixturing components, to secure the part. Cross members can also be used to increase rigidity.

Recurring Inspections

Once a fixture is assembled, you have a few options for future setups depending on the volume of the inspections:

LEAST | A few times a year

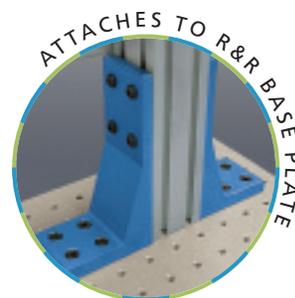
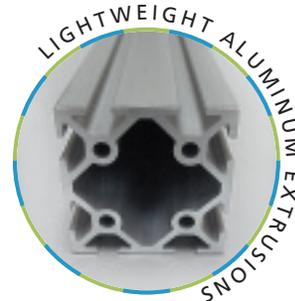
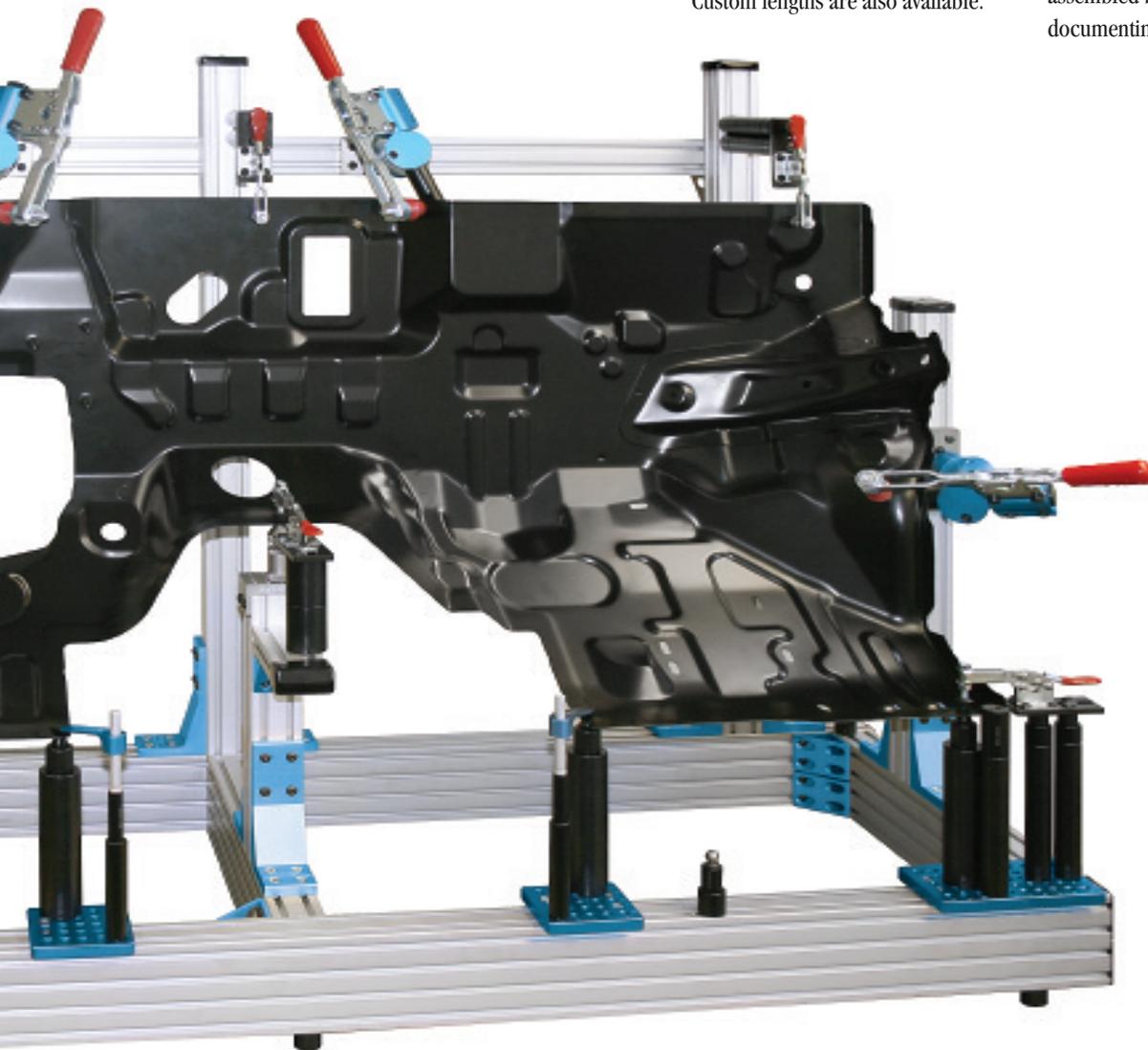
For future assembly, record the positions where the components attach to the XTensions with your CMM. Then document the locations of the XTensions to the base plate.

MORE | Multiple times a month

Leave the XTensions assembled and the T-nuts in place with a label documenting the position of the components for future fixture assembly.

MOST | Weekly

Leave the XTensions and components assembled but remove from the base plate, documenting its position.



XTension kits

A comprehensive kit for fixturing large and vertical parts.



1



2



3

1/4-20 kits shown here

PART #	DESCRIPTION	1/4-20 KITS			M8 KITS		
		1	2	3	1	2	3
XT1-6	XTension 1"x 1"x 6"	2	2	4	2	2	4
XT1-12	XTension 1"x 1"x 12"	-	-	2	-	-	2
XT1-2-6	XTension 1"x 2"x 6"	-	-	2	-	-	2
XT1-2-12	XTension 1"x 2"x 12"	1	2	4	1	2	4
XT2-18	XTension 2"x 2"x 18"	1	1	3	1	1	3
XT2-24	XTension 2"x 2"x 24"	2	2	4	2	2	4
XT2-30	XTension 2"x 2"x 30"	-	-	2	-	-	2
XT2-36	XTension 2"x 2"x 36"	-	2	4	-	2	4
XT2-42	XTension 2"x 2"x 42"	-	-	2	-	-	2
XT-2AF	XT2 angle foot to base	4	6	16	-	-	-
XT-2AF-M8	XT2 angle foot to base	-	-	-	4	6	16
XT-2A-4	XT2 angle 4 holes	2	2	8	2	2	8
XT-2A-8	XT2 angle 8 holes	-	-	6	-	-	6
XT-1AG-4	XT1 angle gusset 4 holes	2	2	4	2	2	4
XT-2AG-8	XT2 angle gusset 8 holes	2	4	12	2	4	12
XT-2AT1-6	XT2 angle transition to XT1	1	2	6	1	2	6
XT-JP-8	XT2 joining plate 8 holes	-	-	4	-	-	4
XT-AB-12	12" angle brace	-	2	4	-	2	4
XT-AB-15	15" angle brace	-	-	2	-	-	2
XT-P-33-20	3" x 3" x .50" grid plate w/ 1/4-20 holes 1/2" o.c.	2	4	8	-	-	-
XT-P-36-20	3" x 6" x .50" grid plate w/ 1/4-20 holes 1/2" o.c.	1	3	6	-	-	-
XT-P-9090-8	90 x 90 x 13mm grid plate w/ M8 holes 15mm o.c.	-	-	-	2	4	8
XT-P-90165-8	90 x 165 x 13mm grid plate w/ M8 holes 15mm o.c.	-	-	-	1	3	6
XT-EC-1	XT1 end cap	2	2	4	2	2	4
XT-EC-1-2	XT1-2 end cap	1	2	6	1	2	6
XT-EC-2	XT2 end cap	4	6	16	4	6	16
XT-ET-Nut	economy T-nuts	86	100	320	86	100	320
XT-PT-Nut	positional pivot T-nuts	8	12	32	8	12	32
SA-8-20	1" dia. x 1" standoff adapter with 8mm threads	-	-	-	8	12	24
XT-Box	organizer box	1	1	1	1	1	1

Kits to choose from...



- All hardware is included in each kit.
- Kits can be modified to fit your application.

the right components + the right price = the right fixture

Everything to Hold Anything

MODULAR FIXTURING COMPONENTS

R&R has a wide selection of fixturing components available to make fixturing quicker and easier than ever. No matter what size, shape or type of material you have, our CMM and vision components can help you quickly fixture anything – increasing the productivity of your inspection equipment. The more components you have, the more modular our fixturing becomes. No more searching everywhere for the right way to hold your parts – big or small, our components can hold it all. R&R is your single source for all your fixturing component needs.

THREAD SIZES

Components offered in English and metric:

- 1/4-20
- M4 (ideal for small, intricate parts)
- M8 (ideal for larger, robust parts)
- M12 (ideal for very large, heavy parts)



Download the R&R component catalog at www.rrfixtures.com



The right fixture
at the right price.™



www.rrfixtures.com



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