

Utility Anchor Lifting System

equipment or hardware. Simply use a standard hook or clevis to connect to the Utility Anchor for a safe lift. An added benefit of the easy to use System is a design feature that enables the unit to be used effec-

tively as a pulling iron.

Ca construction anchors, inc.

The Dayton Richmond Utility Anchor Lifting System is an economical, user friendly system for lifting and handling precast concrete elements.

Key Advantages of the Utility Anchor Lifting System:

• High strength – Up to 10,000 lbs. SWL with an approximate 4 to 1 safety factor.

- Used with a standard hook or clevis - no special lifting hardware required.
- Easy to install and use. Utilizes reusable 90° and 45° polyurethane setting plugs – one size plug fits all anchor sizes.

• Eliminates "through holes" in the precast element.

 An economical system.

• A very versatile system – applicable to any precast element, can be used for lifting, used as pulling iron or lifting and pulling iron.

The System can be utilized to remove the precast elements from their forms, handling the elements in the precast yard, loading for shipment and unloading and placement at the job site – all without the need for any special lifting The Dayton Richmond Utility Anchor Lifting System is designed to economically simplify the lifting and handling of precast concrete elements. Its economics, ease of use and versatility will be a welcome addition to your precast operations.



Utility Anchor

	Allowable Load Zone			- V		
Product Code	Slab Min. at 90°	Slab Min. at 45°	SWL at 90° Tension	SWL at 45° Shear	SWL at 45° Tension	SWL at 45° Shear
4UA444	4"	3-1/2"	1,125	1,750	795	795
6UA444	5-5/8"	4-1/2"	4,000	9,000	2828	2828
6UA671	5-5/8"	4-1/2"	5,000	10,000	3535	3535
8UA671	7-5/8"	6"	10,000	12,000	7070	7070

Note: Safe Working Load provides a factor of safety of approximately 4:1 Table is based on a minimum concrete compressive strength of 4,000psi.

P-75 Anchors and accessories:

Utility	Product	٨	В	C	Woight Eo
Anchor	Code	A	D	U	weight Ea.
c. 1	4UA444	5.25"	3.125"	.444"	5 oz.
В	6UA444	7.375"	4.75"	.444"	12 oz.
	6UA671	7.375"	4.75"	.671"	1 lb.
	8UA671	9.684"	6.75"	.671"	1-1/2 lb.
Setting	Product				
Plug	Code	D	Е	F	Weight Ea.
F D	UASP90	6.98"	3.25"	3"	1-1/4 lb.
90' 45'	UASP45*	6.98"	3.25"	3"	1-1/4 lb.

* Holds Anchor at 45° angle (Special Order)







Swift Lift System The SWIFT LIFT (SL) SYSTEM is a quick connect/disconnect system which allows precast concrete units to be handled repeatedly with speed, safety and economy. The system is a non-welded system and also avoids threaded connections, which are time-consuming, subject to thread wear and damage, and the further risk of not being fully engaged, with consequent reduction of the safe working load. The reusable SL Lifting Eye is free of these disadvantages and by virtue of its guality and heavy-duty construction will give years of use.

The Swift Lift System is available with safe load ratings of 1, 1.3, 2, 2.5, 4, 5, 8, 10 and 20 tons. Each component is clearly marked in tons, with the maximum safe rating load. The system is extremely versatile in use, being suitable for vertical or diagonal pull. It can also be used to raise concrete units from the horizontal to the vertical position without the aid of a tilting table.

Components of the Swift Lift System

The Swift Lift System consists of the following items:

- P-50 SL Universal Lifting Eyes
- P-51 SL Lifting Eye
- P-52 SL Anchor
- P-53 SL Lifting Eye Anchor
- P-55 SL Narrow Recess Plug with Stud and Wing Nut
- · P-55 SL Round Recess Plug with Stud and Wing Nut
- P-56 SL Narrow Recess Plug Only
- P-56 SL Round Recess Plug Only
- P-56-R SL Round Recess Plug Only for Steel Forms
- P-57 SL Steel Recess Plug

SL Lifting Eyes

• P-58 SL Rubber Ring for Steel Recess Plug

- P-59 SL Shear Bar
- P-60 SL Tension Bar
- P-61 SL Setting Plate
- P-62 SL Countersunk Screw
- P-63 SI Stud
- P-63-R SL Attachment Stud
- P-64 SL Wing Nut
- P-65 SL Safety Pin with Washer
- P-66 SL Tapped Plate
- P-66-R SL Attachment Nut
- P-69 SL Edge Lifting Eye

P-50 SL Universal Lifting Eye



P-51 SL Lifting Eye



P-69 SL Edge Lifting Eye

TOLL FREE 800-892-7224 800-821-7735



The design of the P-50 Universal Lifting Eye permits the ball to freely rotate 180°, while the complete lifting eye may rotate through a 360° arc. This design feature allows your precast concrete elements to be turned, tilted and/or rotated under load.

The P-50 SL Universal Lifting Eye is not recommended for edge lifting of thin precast concrete panels. Instead, consider using either the P-51 SL Lifting Eye or the P-69 SL Edge Lifting Hardware

The P-50 SL Universal Lifting Eye is available in load ranges to fit all sizes of SL anchors.

The P-51 SL Lifting Eye is a high-quality steel casting, hardened and tempered with a minimum breaking strength of more than five times the rated load. Its ball-shaped lower end fits into the recess formed in the concrete and has a T-shaped slot which engages the spherical head of the anchor. Connection to the anchor head can only be made when the lifting eye is positioned face down to the concrete. Accidental disengagement is prevented by a gravity-action safety pin which must be raised before the SL Lifting Eye can be removed.

The P-51 SL Lifting Eye is available in load ranges of 1 to 1.3, 1.5 to 2.5, 3 to 5 and 6 to 10 tons.

The P-69 SL Edge Lifting Eye is specifically manufactured for the edge lifting or tilting up of thin precast wall panels from the flat to the vertical position. As the panel is rotated into the vertical position, the hardware's roller block transfers the load on the anchor from shear into tension. The unique design of this lifting eye does not allow the body of the hardware to move or bear against the concrete. Due to the effectiveness of this design, no shear bars are required for use with Swift Lift Anchors when using the P-69 hardware.

Either the P-50 or P-51 SL Lifting Eyes may be used to handle the panel once the panel has been tilted up and placed into storage. This means that the P-69 SL Edge Lifting Eye is used only in the production of thin wall panels.

The P-69 SL Edge Lifting Eye is available in load ranges of 1 to 1.3, 1.5 to 2.5, and 3 to 5 tons.

Designed for use with a spreader or equalizer beam and vertical slings only. Do not use with Vtype rigging arrangements. Design may vary from that shown.



Swift Lift System

Swift Lift Anchors



P-53 SL Eye Anchor

or is fabricated from carbon steel which has a minimum ultimate ten-

P-52 SL Anchor is fabricated from carbon steel which has a minimum ultimate tensile strength of 75,000 PSI. Both ends of the bar are hot forged; the formed head provides a spherical seating onto which the SL Lifting Eye engages, while a discshaped foot is provided at the lower end and is embedded in the concrete. Laboratory tests have proven that such a safe working load is clearly visible on the head of the anchors for easy recognition of the safe lifting capacity, even when embedded in concrete. Stainless steel SL anchors are available on special order.

P-53 SL Eye Anchor is available in 1.3, 2.5, 5, 10 and 20 ton capacities. It is fabricated with an eye at the foot of the anchor and thereby allows P-60 tension bars to be attached. The SL Eye Anchor is used primarily in very thin sections, thin panels constructed with lightweight concrete, or in shapes that must be handled at very low compressive strength (less than 2000 PSI). The **MAXIMUM** safe working load in tons is embossed on the head of the anchor.

These anchors have the same head and shaft diameters as our 2, 4, 8 and 20 ton SL anchors. This allows them to work with our SL Lifting Hardware and related SL accessories.

Swift Lift Accessories

P-55 Recess Plug with Stud & Wing Nut



P-56 Recess Plug Only



Round Recess Plug



Narrow

Recess Plug

P-55 SL Recess Plug is available in two styles; round and narrow. The round recess plug is used in most situations, while the narrow plug is used in thin-wall conditions, such as in the top edge of highway safety barriers. The system is designed so that the anchor head lies approximately 1/2 inch below the surface of the concrete in a recess which can be easily patched after the precast unit is in its final position. One of the resulting advantages is that rusting of the anchor and surface staining of the concrete are prevented. The cavity is formed with the SL Recess Plug which is attached to the side of the mold by means of the stud and wing nut provided and in which the anchor is securely held during casting.

The SL Recess Plug has a slit which facilitates insertion of the anchor head and withdrawal when the formwork is stripped or the concrete has achieved final set. When removing the plug, plain rods or screwdrivers can be introduced into two holes provided in the top surface of the recess plug, which is then pried open and removed from the concrete. SL Recess Plugs are made of a combination of rubber and neoprene (Nitrile Butadiene) and are ideal for use in conditions requiring temperature or oil resistance.

P-56 SL Recess Plugs are identical to the P-55 Recess Plugs, except they are supplied as replacement recess plugs without stud and wing nut.

P-57 SL Steel Recess Plug is drilled and tapped at the top surface for attachment to forms that have repetitive uses, such as battery molds, steel forms that have a collapsible stripping feature, etc. If it is not feasible to drill holes in the forms, the Steel Recess Plug may be glued or tack welded to the form surface. The SL Steel Recess Plug should not be used in the top surface of concrete elements.

P-58 SL Rubber Ring is placed on the shaft of the SL anchor and is seated into the SL Steel Recess Plug, providing a holding action for the anchor. Anchors used in this manner should be supported at their ends to prevent dislodgement.



Visit Us on the Web! www.ConstructionAnchors.com



13900 E. 350 Highway Kansas City, MO 64138

91

Swift Lift System

Swift Lift Accessories



P-59 SL Shear Bar



P-59 Shear Bar. When edge lifting thin precast wall panels from flat to vertical, the P-59 Shear Bar is used to transfer the applied shear load deeper into the panel. In order for the shear bar to work properly, it must be secured tightly against the recess plug.

CONCRETEAC

DAYTON/RICHMON

DAYTON SUPERIOR COMPANY

P-60 Tension Bar. The P-53 SL Eye Anchor requires the use of the P-60 Tension Bar in order for the anchor to develop its load carrying capacity. Dayton Superior does not recommend the use of the P-53 SL Eye Anchor without a correctly installed tension bar.

P-60 SL Tension Bar



P-61 SL Setting Plate



P-62 SL Countersunk Screw



P-66 SL Tapped Plate



P-63 SL Stud



P-64 SL Wing Nut

P-61 SL Setting Plate is available in two sizes; a 4" diameter plate for use with 4-ton anchors, and a 5" diameter plate for use with 8-ton anchors.

P-62 SL Countersunk Screw. The 5/16"-18 NC threaded x 3/4" long screw is used with the 4-ton setting plate, while the 7/16"-14 NC threaded x 3/4" long screw is used with the 8-ton plate.

P-66 SL Tapped Plate. This special plate is designed to be used with the P-62 SL Countersunk Screw.



P-61 SL Setting Plate. When used in conjunction with the P-62 SL Countersunk Screw and P-66 SL Tapped Plate, provides a means of placing an SL anchor into the surface of a flat panel without any obstruction for screeding purposes.

P-63 SL Stud is identical to the studs supplied with the P-55 Recess Plug, except it is a replacement item. Available with 5/16"–18 NC threads for use with 1-ton recess plugs, or 7/16"–14 NC threads for use with all other P-55 Recess Plugs.

P-64 SL Wing Nut is a replacement wing nut for the nut supplied with the P-55 SL Recess Plug. This nut is available in two different thread sizes. The 5/16"–18 NC threaded wing nut is designed for use with the 1-ton P-63 SL Stud, while the 7/16"–14 NC threaded unit works with the 2, 4, 8 and 20-ton studs.

NOTE: These wing nuts will not fit the P-63-R SL Attachment Stud.



LOCAL 816-525-3640 FAX 816-525-4533

D

Swift Lift System



P-52 SL Anchor Tensile & Shear Capacity

When anchors are used in the face of flat slabs



The following table lists the P-52 Swift Lift Anchors that are currently manufactured. Other sizes and lengths are available on special order. However, we have found that the sizes and lengths of anchors shown will handle the majority of flat precast concrete elements.

When the P-52 Swift Lift Anchor is properly embedded in normal weight concrete, the tabulated working loads are applicable for any direction of load. This applies even if the direction of load is parallel to the axis of the anchor, perpendicular to it or at any other angle.

Minimum distance between anchors is twice the minimum edge distance.

It is critical to remember that in order to obtain the safe working loads listed in the table below, the normal weight concrete must have obtained the minimum concrete strength shown – prior to the initial load application.

Swift Lift Anchor Ton x Length	Safe Working Load	Minimum Concrete Strength	Minimum Edge Distance
1 ton x 2-5/8" (67mm) long	1700 lbs. / 7.6 kN	3500 PSI / 24 MPa	8" / 220mm
1 ton x 3-3/8" (86mm) long	2000 lbs. / 9.0 kN	2200 PSI / 15 MPa	10" / 250mm
1 ton x 4-3/8" (111 mm) long	2000 lbs. / 9.0 kN	1600 PSI / 11 MPa	10" / 250mm
1 ton x 8" (203mm) long	2000 lbs. / 9.0 kN	1600 PSI / 11 MPa	10" / 250mm
1 ton x 9-1/2" (241mm) long	2000 lbs. / 9.0 kN	1600 PSI / 11 MPa	10" / 250mm
2 ton x 2-3/4" (70mm) long	2100 lbs. / 9.4 kN	3500 PSI / 24 MPa	8" / 220mm
2 ton x 3-3/8" (86mm) long	2900 lbs. / 13.0 kN	3500 PSI / 24 MPa	10" / 250mm
2 ton x 5-1/2" (139mm) long	4000 lbs. / 17.9 kN	1600 PSI / 11 MPa	13" / 330mm
2 ton x 6" (152mm) long	4000 lbs. / 17.9 kN	1600 PSI / 11 MPa	13" / 330mm
2 ton x 6-3/4" (171mm) long	4000 lbs. / 17.9 kN	1600 PSI / 11 MPa	13" / 330mm
2 ton x 11" (279mm) long	4000 lbs. / 17.9 kN	1600 PSI / 11 MPa	14" / 350mm
4 ton x 3-3/4" (95mm) long	4000 lbs. / 17.9 kN	3500 PSI / 24 MPa	12" / 300 mm
4 ton x 4-1/4" (108mm) long	4900 lbs. / 22.0 kN	3500 PSI / 24 MPa	13" / 330mm
4 ton x 4-3/4" (121mm) long	5800 lbs. / 26.0 kN	3500 PSI / 24 MPa	14" / 350mm
4 ton x 5-1/2" (139mm) long	7400 lbs. / 33.2 kN	3500 PSI / 24 MPa	17" / 430mm
4 ton x 7-1/8" (153mm) long	8000 lbs. / 35.8 kN	1800 PSI / 12 MPa	20" / 500mm
4 ton x 9-1/2" (241mm) long	8000 lbs. / 35.8 kN	1600 PSI / 11 MPa	17" / 430mm
4 ton x 14" (356mm) long	8000 lbs. / 35.8 kN	1600 PSI / 11 MPa	18" / 450mm
4 ton x 19" (483mm) long	8000 lbs. / 35.8 kN	1600 PSI / 11 MPa	20" / 500mm
8 ton x 4-3/4" (121mm) long	6400 lbs. / 28.7 kN	3500 PSI / 24 MPa	16" / 400mm
8 ton x 6-3/4" (171mm) long	11,200 lbs. / 50.2 kN	3500 PSI / 24 MPa	21" / 530mm
8 ton x 10" (254mm) long	16,000 lbs. / 71.7 kN	3500 PSI / 24 MPa	19" / 480mm
8 ton x 13-3/8" (340mm) long	16,000 lbs. / 71.7 kN	1600 PSI / 11 MPa	23" / 580mm
8 ton x 26-3/4" (679mm) long	16,000 lbs. / 71.7 kN	1600 PSI / 11 MPa	27" / 680mm
20 ton x 10" (254mm) long	25,000 lbs. / 112.0 kN	3500 PSI / 24 MPa	24" / 610mm
20 ton x 19-3/4" (502mm) long	40,000 lbs.* / 179.2 kN	3500 PSI / 24 MPa	31" / 780mm

SWL's provide a factor of safety approximately 4 to 1 in normal weight concrete.

* SWL's provide a factor of safety approximately 3 to 1 in normal weight concrete.

SWL is based on anchor setback from face of concrete "X" dimension, as shown on next page.



Swift Lift System



P-52-W SL Anchor Tensile & Shear Capacity When anchors are used in the face of thin concrete elements

The P-52-W Swift Lift Anchors are the shortest 2-ton and 4-ton Swift Lift Anchors available and have been specially modified. A Type W plain washer is placed on the anchor's foot where it is welded into position. This modification has been made in order to increase the SWL of these short SL anchors in thin precast concrete elements.



Swift Lift Anchor Tons x Length	Safe Working Load	Minimum Concrete Strength	Minimum Edge Distance	W
2 tons x 2-3/4" (70mm)	3700 lbs. / 16.5 kN	3500 PSI / 24 MPa	8" / 200mm	2-1/2" / 64mm
4 tons x 3-3/4" (95mm)	5700 lbs. / 25.4 kN	3500 PSI / 24 MPa	12" / 300mm	2-3/4" / 70mm



P-52 SL Anchor and Recess Plug Dimensions





SL Round Recess Plug

SL Narrow Recess Plug

SL Recess Plug Dimensions

Swift Lift Anchor	Recess Plug Diameter	Dimension "Z"	Dimension "T"	Dimension "B"
1 or 1.3 Tons	2-3/8" / 70mm	1-3/16" / 30mm	1-21/32" / 42mm	1-11/32" / 34mm
2 or 2.5 Tons	3" / 76mm	1-7/16" / 37mm	2-1/32" / 52mm	1-23/32" / 44mm
4 or 5 Tons	3-3/4" / 95mm	1-13/16" / 46mm	2-3/4" / 70mm	2-9/32" / 58mm
8 or 10 Tons	4-3/4" / 120mm	2-5/16" / 59mm	3-11/32" / 85mm	2-15/16" / 75mm
20 Tons	6-3/8" / 162mm	3-1/8" / 79mm	4-15/16" / 125mm	4-7/16" / 113mm

Note: Length of the narrow recess plug is the same as the diameter of the round recess plug.

P-52 SL Anchor Dimensions

Swift Lift Anchor	Dimension "X"	Dimension "Y"	Shaft Diameter	Foot Diameter	Head Diameter
1 or 1.3 Tons	5/16" / 8mm	7/8" / 22mm	3/8" / 9mm	1" / 25mm	11/16" / 17mm
2 or 2.5 Tons	7/16" / 11mm	1-1/16" / 27mm	9/16" / 14mm	1-3/8" / 35mm	31/32" / 24mm
4 or 5 Tons	9/16" / 14mm	1-5/16" / 33mm	3/4" / 19mm	2" / 50mm	1-11/32" / 34mm
8 or 10 Tons	9/16" / 14mm	1-5/8" / 41mm	1-3/32" / 27mm	2-3/4" / 70mm	1-7/8" / 47mm
20 Tons	9/16" / 14mm	2-5/8" / 67mm	1-1/2" / 38mm	3-3/4" / 95mm	2-3/4" / 69mm









Swift Lift System



P-52 SL Anchors for Edge Lifting



The P-52 SL Anchors and P-51 SL Lifting Eyes are useful for raising precast concrete panels from their horizontal casting position to a vertical position for handling and shipping. When Swift Lift anchors are used in thin precast panels and under shear loading conditions, a special shear bar must be used.

The applied shear load tends to bend the SL anchor, allowing the lifting eye to apply load to the thin concrete section above the recess plug. A properly installed shear bar captures the applied load and transfers it deeper into the concrete.

When raising precast panels from a horizontal position to a vertical position, always check both shear and tension safe working loads.

In order to develop the SL anchor's shear safe working load, the minimum spacing between SL anchors is two times the corner distance listed. Please see the **P-51 SL Lifting Eye Shear Capacity in Thin Walls** chart for minimum corner distance C/2.

Dayton Superior does not recommend the P-50 SL Universal Lifting Eye for use in edge lifting thin precast panels.







Properly installed shear bars are required to develop SWL's shown in chart. 2x de equals effective wall thickness for tensile loads.

P-59 Shear Bar Dimensions

Anchor Rated Load Tons	A	в	с	R	Rebar Size
1	7" / 178mm	5" / 127mm	2-1/2" / 64mm	1" / 25mm	#4 / #10M
2	9" / 229mm	7" / 178mm	3" / 76mm	1-7/16" / 37mm	#4 / #10M
4	10" / 254mm	9" / 229mm	3-3/4" / 95mm	1-3/4" / 44mm	#4 / #10M
8	12" / 305mm	10" / 254mm	3-3/4" / 95mm	2-1/4" / 57mm	#6 / #20M





Swift Lift System



P-53 SL Lifting Eye Anchor for Lifting and Handling

The P-53 SL Lifting Eye Anchor is designed for use with the P-60 reinforcing bar to be placed through the eye of the anchor. This combination of SL Eye Anchor and P-60 Rebar allows the anchor's full rated tensile load to be developed in thin narrow wall conditions. The anchor should be located at the centerline of the wall. When two or more anchors are required, the minimum spacing between anchors must be equal to the minimum panel width.

This combination of P-53 SL Lifting Eye Anchor and P-60 Rebar is also an excellent system to use for setting precast columns into position.





P-53 SL Anchor Effective Tensile Capacity

Anchor Rated Load Tons	Anchor Length "L"	Minimum Thickness or Depth 2 de	Actual Edge Distance de	Minimum Corner Distance	Minimum Panel Width	Tensile Safe Working Load per Anchor
1.3	2-1/2" / 63mm	3" / 75mm	1-1/2" / 38mm	8" / 200mm	16" / 400mm	2600 lbs. / 11.1 kN
2.5	3-1/2" / 89mm	3" / 75mm	1-1/2" / 38mm	4" / 100mm	8" / 200mm	5000 lbs. / 22.2 kN
5	4-3/4" / 120mm	3-3/4" / 95mm	1-7/8" / 47mm	5" / 125mm	10" / 250mm	10,000 lbs. / 44.4 kN
10	7-1/16" / 180mm	4-3/4" / 120mm	2-3/8" / 60mm	7" / 175mm	14" / 350mm	20,000 lbs. / 88.9 kN
20	9-7/8" / 250mm	6-3/8" / 160mm	3-3/16" / 80mm	8-1/2" / 215mm	17" / 430mm	40,000 lbs. / 117.9 kN

SWL provides a safety factor approximately 3:1 in 2000 PSI (14 MPa) normal weight concrete. **Note:** Contact Dayton Superior's Technical Service Department for safe working loads when the P-53 Eye Anchor is used with straight lengths of rebar.

P-60 Reinforcing Bar Dimensions						
Anchor Rated Load	Grade 60 Rebar	Rebar	"A	"		
Tons	Size	Overall Length	Standard	Maximum	"R"	
1.3	.306" (7.8mm) Dia.	40" / 1000mm	14" / 355mm	_	3/4" / 19mm	
2.5	#3	24" / 610mm	5" / 127mm	7-1/2" / 190mm	1-1/8" / 28mm	
5	#5 / 15M	24" / 610mm	6-1/4" / 158mm	10" / 250mm	1-7/8" / 47mm	
10	#6 / 20M	48" / 1220mm	9-1/2" / 240mm	15" / 381mm	2-1/4" / 57mm	
20	#8 / 25M	86" / 2180mm	12-1/2" / 317mm	20" / 508mm	3" / 76mm	





Note: For use with 1.3 ton P-53 Eye Anchors only.

Rebar Style



Swift Lift System

P-50 SL Universal Lifting Eye





The SL Universal Lifting Eye consists of a flatsided spherical lifting body and a high-strength ball. The lifting body has a T-shaped slot which permits rapid attachment and release of the lifting eye onto Swift Lift anchors, even while wearing work gloves.

The design of the P-50 Universal Lifting Eye permits the bail to freely rotate 180°, while the complete lifting eye may rotate through a 360° arc. This design feature allows your precast concrete elements to be turned, tilted and/or rotated under load.

Dayton Superior does not recommend the use of this lifting eye for tilting of thin precast concrete panels.

General Information – Dimensions of P-50 SL Universal Lifting Eye

Rated Load	Load Range						
Tons	Tons	Α	В	D	F	G	L
1	1 to 1.3	1.87" / 48mm	2.95" / 75mm	2.20" / 64mm	1.26" / 32mm	2.80" / 71mm	7.40" / 188mm
2	1.5 to 2.5	2.34" / 60mm	3.58" / 91mm	2.68" / 68mm	1.61" / 41mm	3.41" / 87mm	9.06" / 230mm
4	3 to 5	2.76" / 70mm	4.65" / 118mm	3.46" / 88mm	2.22" / 57mm	3.46" / 88mm	11.14" / 283mm
8	6 to 10	3.47" / 88mm	6.30" / 112mm	4.41" / 112mm	2.83" / 72mm	4.52" / 115mm	15.79" / 401mm
16	12 to 20	4.18" / 106mm	7.09" / 152mm	6.00" / 152mm	4.29 / 110mm	5.31" / 135mm	20.00" / 508mm

The rated load provides a safety factor of approximately 5:1 – ultimate to rated load.

Inspection and Maintenance

The SL Universal Lifting Eye may be subjected to wear, misuse, overloading, and many other factors which may affect the lifting eye's rated load. Therefore, the lifting eye must be inspected by the user at least once a month to determine its general condition and degree of wear.

During your monthly inspection, check for evidence of heat application. If evidence of heat application is found, the unit must be scrapped. Check for bent or twisted bails. Discard all units with bent or twisted bails. Also, check to make certain that the bail can rotate freely in all directions.

At least once every three months, dimensions "H" and "M" on each unit should be checked. The upper limits are shown in the chart. If either of these limits is exceeded, the SL Universal Lifting Eye must be removed from service and destroyed. The proper method to use in scrapping a lifting eye is to cut through the bail with a cutting torch.

No repairs to the P-50 SL Universal Lifting Eye are permitted. No welding to the lifting eye is allowed.

Limiting Dimensions on P-50 SL Universal Lifting Eye

Rated Load Tons	Load Range Tons	Maximum Width H	Minimum Thickness M
1	1 to 1.3	0.512" / 13mm	0.217" / 5.5mm
2	1.5 to 2.5	0.709" / 18mm	0.236" / 6.0mm
4	3 to 5	0.984" / 25mm	0.315" / 8.0mm
8	6 to 10	1.260" / 32mm	0.472" / 12.0mm
16	12 to 20	1.811" / 46mm	0.709" / 18.0mm



Swift Lift System



P-51 SL Lifting Eye Inspection and Maintenance

While appreciable wear does not normally occur, the P-51 SL Lifting Eye may be subjected to wear, misuse, overloading and other factors which may affect the lifting eye's rated load. Therefore, the lifting eye must be inspected by the user at least once a month to determine its general condition and degree of wear.

During your monthly inspection, check for evidence of heat application. If evidence of heat application is found, the unit must be scrapped. You should also check to make certain that the bail is not bent or twisted. Discard all units that have a bent or twisted bail.

Check to make certain that the safety pin is in good condition and that it moves freely at all times. Also, check for a bent or missing safety pin and replace the pin as required.

At least once every three months, dimensions "H" and "M" on each unit should be checked. The upper limits are shown in the chart. If either of these limits is exceeded, the SL Lifting Eye must be removed from service and destroyed.

The proper method to use in scrapping a lifting eye is to cut through the bail with a cutting torch.

Other than replacing the safety pin, no repairs to the P-51 SL Lifting Eye are permitted. In particular, welding is not permissible.





Limiting Dimensions on P-51 SL Lifting Eye

Rated Load Tons	Load Range Tons	Maximum Width H	Minimum Thickness M
1	1 to 1.3	0.512" / 13mm	0.217" / 5.5mm
2	1.5 to 2.5	0.709" / 18mm	0.236" / 6.0mm
4	3 to 5	0.984" / 25mm	0.315" / 8.0mm
8	6 to 10	1.260" / 32mm	0.472" / 12.0mm

General Information Dimensions of P-51 SL Lifting Eye

Α	В	D	I	L
1.97" / 50mm	3.62" / 92mm	1.77" / 45mm	2.95" / 75mm	6.61" / 170mm
2.64" / 67mm	4.52" / 115mm	2.36" / 60mm	3.74" / 95mm	8.43" / 215mm
3.00" / 76mm	5.06" / 129mm	2.83" / 72mm	4.96" / 126mm	10.35" / 260mm
3.54" / 90mm	5.98" / 152mm	3.70" / 94mm	5.60" / 143mm	12.87" / 325mm

Rated load provides a safety factor of approximately 5:1 - ultimate to rated load.



Fleet-Lift System

System Description

The Fleet-Lift System is an economical, quick connect/disconnect system which allows precast concrete units to be handled repeatedly with speed and safety. The Fleet-Lift Ring Clutch is easily connected to the anchor. The high-quality and heavy-duty construction of the Fleet-Lift Ring Clutches will give years of safe use.

Fleet-Lift Anchors are available in 1, 2, 3, 4, 6 and 8 ton capacities. Each system component is clearly marked in tons with the maximum safe working load. The system is extremely versatile, being suitable for vertical and diagonal pulls. It can be used to raise concrete units from the horizontal to the vertical without the aid of a tilting table.

Components of the Fleet-Lift System

The Fleet-Lift System consists of the following items:

- P-91 Fleet-Lift Ring Clutches
- P-92 Fleet-Lift Erection Anchors
- P-93 Fleet-Lift L-Anchors
- P-94 Fleet-Lift T-Anchors
- P-95 Fleet-Lift Plate and Flat Foot Anchors
- P-96 Fleet-Lift Two Hole Anchors
- P-97 Fleet-Lift Specialty Anchors (Double Tee Anchors)
- P-98 Fleet-Lift Shear Bars and Tension Bars
- P-99 Fleet-Lift Recess Members
- P-100 to P-103 Fleet-Lift Accessories

P-91 Fleet-Lift Ring Clutches

The P-91 Fleet-Lift Ring Clutch consists of a clutch body, curved bolt, and a high-strength steel or cable bail. Attachment is as simple as sliding the curved bolt to the open position, placing it over the anchor head and sliding the bolt to the closed position.

The design of the steel bail permits full 360° rotation and the cable bail adds even more flexibility. Either bail will align itself with the rigging, allowing the safest position for lifting. Once engaged and under at least 400 pounds of load, the clutch cannot be intentionally or accidentally disengaged. When a remote release is required, it can be easily accomplished with a lanyard after the load has been removed from the rigging.

s as simple it over the P-91 Standard Ring Clutch

P-91-CB Cable Bail Ring Clutch

ICHMOND CCESSORIES A DAYTON SUPERIOR COMPANY WS precast concrete sily connected to the rill give years of safe



DAYTON/RICH

CONCRETE

Fleet-Lift System Components



Fleet-Lift Ring Clutches can be employed for face lifting and edge lifting when used with any of the Fleet-Lift erection-type anchors.

Fleet-Lift Ring Clutches are available in 2, 4, and 8-ton load ranges.

Visit Us on the Web! www.ConstructionAnchors.com





Fleet-Lift System



CESSORIES A DAYTON SUPERIOR COMPANY

P-92 Fleet-Lift Erection Anchors

P-92 Fleet-Lift Erection Anchors are engineered from high-strength steel. All P-92 Erection Anchors have a special head design to control ring clutch pressure so it never bears on the concrete, helping to eliminate spalling during edge lifting. All P-92 Erection Anchors are available in plain finish. hot-dipped galvanized or the durable and economical epoxy E-Coating.

P-92 Erection Anchors come in many different styles. The most popular is the standard P-92 Erection Anchor. This anchor is used with a Fleet-Lift Shear Bar to safely lift precast elements from the edge in shear and transfer to tension.

The P-92-P Erection Anchor with Shear Plate eliminates the need for the Shear Bar. The shear plate accomplishes the same function as the standard eretion anchor and shear bar.

The P-92-S Sandwich Erection Anchor uses the anchor head and two tension bars to lift precast sandwich panels from the edge to vertical.



Erection Anchor

P-92-F **Erection Anchor** w/ Shear Plate

The P-92-H Two Hole Erection Anchor, the most economical erection anchor, uses a shear bar or shear plate to resist shear and a required tension bar to safely lift and handle precast units from the edge.

P-92 Erection Anchors are available in 2, 4, 6 and 8-ton capacities.

The P-92-AH Erection Anchor with 45° head and shear plate is designed to lift directly from a 45° mitered edge.

The P-92-DP Erection Anchor with double shear plate/pin is designed to take shear loads in both directions.



P-92-S Sandwich Panel **Frection Anchor**

P-92-SP Sandwich Panel **Erection Anchor** w/ Shear Plate



P-92-AH Erection Anchor w/ 45° Head and Shear Plate

800-821-7735

TOLL FREE 800-892-7224



P-92-HP Two-Hole **Erection Anchor** w/ Shear Plate





LOCAL 816-525-3640 FAX 816-525-4533

D i

Fleet-Lift System

DAYTON/RICHMOND CONCRETE ACCESSORIES A DAYTON SUPERIOR COMPANY

P-93 Fleet-Lift L-Anchors

The P-93 Fleet-Lift L-Anchor has a simple but efficient design capable of high pullout strengths. The P-93 L-Anchor is designed for face or edge lifting, and due to its strength and economy, is used commonly in earth-retaining type panels.

The P-93 L-Anchor is only available in 1-ton capacity. A special recess member with a narrow anchor slot is used in conjunction with this anchor.

P-94 Fleet-Lift T-Anchors

P-94 Fleet-Lift T-Anchors are designed with a steel pin to resist pullout. The versatility is increased with the availability of many different anchor lengths and capacities.

P-94 T-Anchors are available in plain finish, hot-dipped galvanized, or durable epoxy E-Coating.

P-94 T-Anchors are normally used in the panel face for stripping panels from the back. They can be used in beams, columns, panel edges or median barriers.

P-94 T-Anchors are available in 2, 4, 6 and 8-ton capacities.

P-95 Fleet-Lift Plate and Flat Foot Anchors

P-95 Fleet-Lift Flat Foot and P-95-P Fleet-Lift Plate Anchors are designed to be installed in the back of thin panels. These anchors have high tension and shear capacities and are easy to reinforce when required.

P-95-P Plate Anchors are available in 2, 4 and 8-ton capacities.

P-95 Flat Foot Anchors are available in 2 and 3-ton capacities. When higher capacities are required, a plate or T-anchor should be used.

P-96 Fleet-Lift Two-Hole Anchors

P-96 Fleet-Lift Two-Hole Anchors are capable of resisting high tension loads in thinwalled concrete. These anchors always require the use of a tension reinforcement. They are often used when the precast unit is handled at very low concrete strengths (less than 2000 PSI) or to handle heavy beams or columns.

The P-96 Two-Hole Anchors are available in 2, 4 and 8-ton capacities.

13900 E. 350 Highway Kansas City, MO 64138



















P-96 Two-Hole Anchor

Plate Anchor

construction

anchors, inc.

P-95

Flat Foot Anchor





Fleet-Lift System

P-97 Fleet-Lift Specialty Anchors

P-97 Fleet-Lift Specialty Anchors are engineered to meet specific project needs. All P-97 Specialty Anchors are manufactured to meet or exceed the 4:1 safety factor required when lifting precast units.

An example of a P-97 Specialty Anchor is the P-97-DT Double Tee Anchor which is made on special order to fit 18", 24" or deeper double-tee concrete units. All P-97 Specialty Anchors are available in plain finish or hot-dipped galvanized.

P-97 Specialty Anchors are available in 2, 4, 6 and 8-ton capacities, depending on the type of anchor and the application.

P-98-S Fleet-Lift Shear Bars

P-98-S Fleet-Lift Shear Bars are designed specifically to fit Fleet-Lift Erection Anchors. Manufactured to tight tolerances, the P-98-S Shear Bar will work with the erection anchor to achieve the highest shear capability. Shear bars are available in plain finish, hot-dipped galvanized or epoxy E-Coating.

Fleet-Lift Shear Bars are available in 2, 4 and 8-ton capacities.

P-99 to P-103 Fleet-Lift Recess Members and Accessories

Fleet-Lift Recess Members and Accessories are specially designed to hold Fleet-Lift Anchors securely in place during the placement of concrete. The recess holds the anchor at the proper depth below the concrete surface and creates a void for the ring clutch. The small void is easily patched to prevent exposure of the anchor to the elements. Available in durable elastomeric urethane or cast iron with a steel wedge.

Each Fleet-Lift Recess Member is manufactured with a stainless steel insert threaded with durable 3/8" coil threads to accept the 3/8" holding rod. For convenience, all Fleet-Lift Recess Members utilize the same P-101 Holding Rod.

A P-100 Fleet-Lift Holding Plate can also be used to secure the recess members to the form. Nails can also be used to secure the cast iron recess member.

Fleet-Lift Recess Members are available in 1, 2/1, 2, 4 and 8-ton capacities.

The disposable recesses can be used on erection or standard anchors. The cover doubles as a patch or can be used to keep debris, water, snow, sand and ice out of the recess during storage, sandblasting or shipping. Color: gray.



Disposable Recess Member

TOLL FREE 800-892-7224

800-821-7735



Cast Iron Recess Member



LOCAL 816-525-3640 FAX 816-525-4533



DAYTON/RICHMOND

CESSORIES AYTON SUPERIOR COMPANY

CONCRETE

P-97-DT Double Tee Anchor



P-89-S Shear Bar



P-99 Plastic Recess Member (Reusable Urethane)



D i

102

Fleet-Lift System

DAYTON/RICHMOND CONCRETE ACCESSORIES A DAYTON SUPERIOR COMPANY

P-92 Fleet-Lift Erection Anchor

2-Ton, 4-Ton, 6-Ton, 8-Ton

P-92 Fleet-Lift Erection Anchors are specifically designed for horizontal to vertical edge lifting and handling of thin-walled precast concrete elements. Two steel protrusions or "ears" on the head of the anchor provide protection against spalling. These protrusions restrict the ring clutch rotation during lateral pulls. As a result, lateral forces are transmitted directly to the edge of the anchor instead of the concrete. The body of the erection anchor is shaped to allow full reinforcement for secure support and spall-free rotation.

SHEAR REINFORCEMENT

Stress is caused during the shear lift of a thin panel, making reinforcement in the direction of the lift necessary. P-98-S Fleet-Lift Shear Bars are designed expressly for this purpose. Place the shear bar in the side notch of the anchor as shown in the illustration below.

Rated loads and minimum panel thicknesses can be found in the table on the next page.

TENSION REINFORCEMENT

Once the panel has been rotated to vertical, the tension lift is initiated. Fleet-Lift Erection Anchors are designed with a steel tension pin for increased tension capacities. During the tension phase of the lift, the erection anchor will work like the standard P-94 T-Anchor or the P-96 Two-Hole Anchor if tension reinforcement is added. The table on the next page shows two sets of data with regard to tension loads. If the higher loads are desired, tension bars should be placed through the lower hole of the anchor. Consult the reinforcement tables for rebar length, diameter and bend angle.



P-92 Erection Anchor



Typical P-92 Fleet-Lift Erection Anchor/Shear Bar Application

Prod.	Δ	в	C	р	F	F	G	н		Ultimate Mech. Cap.	Weight Per Piece
Code	~	D	0						5	LD3.	LDS.
				2-To	n Ring Clu	tch System	(2-Ton And	:hor)			
FL047	2"	8"	3/8"	1-13/16"	2-1/4"	3-3/16"	9/16"	1-1/8"	1/2"	16,000	1.80
				4-To	n Ring Clu	tch System	(4-Ton And	hor)			
FL048	2-1/2	10-7/16"	5/8"	2-1/2"	3-3/16"	4-9/16"	3/4"	1-1/4"	3/4"	32,200	4.61
				8-To	n Ring Clu	tch System	(6-Ton And	hor)			
FL349	3-3/4"	13-1/4"	5/8"	3-1/8"	4"	5-7/8"	1"	1-3/4"	3/4"	48,000	7.97
8-Ton Ring Clutch System (8-Ton Anchor)											
FL049	3-3/4"	13-1/4"	3/4"	3-1/8"	4"	5-7/8"	1"	1-3/4"	3/4"	64,000	9.65
Note: X = c	dimension	from surface	of conc	rete to anchor.	1/4" for 2-tor	n system, 3/16'	" for 4-ton sv	stem and 1/4" f	or 8-ton sv	stem.	

Visit Us on the Web! www.ConstructionAnchors.com



Fleet-Lift System



A DAYTON SUPERIOR COMPANY

P-92 Fleet-Lift Erection Anchor w/ Shear Bar 2-Ton, 4-Ton, 6-Ton, 8-Ton

D	ĺ
i	
v	
i	
s	
i	
0	
n	
3	

ſ	20	1
ſ	00	٩
	0	
4	K	J

Product	Panel	Shear	Tension	Tension (With Tension Bar)
Code	Thickness	Safe Working Load	Safe Working Load	Safe Working Load
		2-Ton Ring Clutch System	(2-Ton Anchor)	
	4" Min.	1650 lbs.	2575 lbs.	4000 lbs.
	5"	1875 lbs.	3350 lbs.	4000 lbs.
	5-1/2"	2000 lbs.	3750 lbs.	4000 lbs.
	6"	2125 lbs.	3850 lbs.	4000 lbs.
EL 047	7"	2400 lbs.	4000 lbs.	4000 lbs.
FL047	8"	2700 lbs.	4000 lbs.	4000 lbs.
	9"	2925 lbs.	4000 lbs.	4000 lbs.
	10"	3275 lbs.	4000 lbs.	4000 lbs.
	11"	3575 lbs.	4000 lbs.	4000 lbs.
	12"	3975 lbs.	4000 lbs.	4000 lbs.
		4-Ton Ring Clutch System	(4-Ton Anchor)	
	5-1/2" Min.	2400 lbs.	4700 lbs.	8000 lbs.
-	6"	3075 lbs.	5075 lbs.	8000 lbs.
	7"	3250 lbs.	5825 lbs.	8000 lbs.
	8"	3425 lbs.	6600 lbs.	8000 lbs.
FL048	9"	3825 lbs.	7350 lbs.	8000 lbs.
	10"	4250 lbs.	8000 lbs.	8000 lbs.
	11"	4650 lbs.	8000 lbs.	8000 lbs.
	12"	5050 lbs.	8000 lbs.	8000 lbs.
		8-Ton Ring Clutch System	(6-Ton Anchor)	
	7-1/2" Min.	4000 lbs.	7500 lbs.	12,000 lbs.
	8"	4200 lbs.	7775 lbs.	12,000 lbs.
F 1 0 40	9"	4550 lbs.	8300 lbs.	12,000 lbs.
FL349	10"	4950 lbs.	8800 lbs.	12,000 lbs.
	11"	5050 lbs.	10,000 lbs.	12,000 lbs.
	12"	5175 lbs.	11,300 lbs.	12,000 lbs.
		8-Ton Ring Clutch System	(8-Ton Anchor)	
	7-1/2" Min.	4000 lbs.	7500 lbs.	16,000 lbs.
	8"	4200 lbs.	7775 lbs.	16,000 lbs.
FI 0 40	9"	4550 lbs.	8300 lbs.	16,000 lbs.
FL049	10"	4950 lbs.	8800 lbs.	16,000 lbs.
	11"	5050 lbs.	10,000 lbs.	16,000 lbs.
	12"	5175 lbs.	11,300 lbs.	16,000 lbs.

Note: Safe Working Load provides a safety factor of approximately 4:1. Table is based on a minimum concrete compressive strength of 3500 PSI.

J

anchors, inc.

LOCAL 816-525-3640

FAX 816-525-4533



Fleet-Lift System



P-92-P Fleet-Lift Erection Anchor w/ Shear Plate 2-Ton, 4-Ton, 6-Ton, 8-Ton

P-92-P Fleet-Lift Erection Anchor with Shear Plate is specifically designed for horizontal to vertical edge lifts and the shear rotation of thin-walled elements. Two steel protrusions or "ears" on the head of the anchor provide protection against spalling. These protrusions restrict the ring clutch rotation during lateral pulls. As a result, lateral forces are transmitted directly to the edge of the anchor instead of the concrete. The body of the erection anchor is shaped to allow full reinforcement for secure support and spallfree rotation.

SHEAR PLATE

Stress is caused during the shear lift of a thin panel, making reinforcement in the direction of the lift necessary. The factory-installed shear plate resists these shear loads, eliminating the need for a shear bar.

The rated loads and minimum panel thicknesses can be found in the table on the next page.

TENSION REINFORCEMENT

Once the panel has been rotated to vertical, the tension lift is initiated. Fleet-Lift Erection Anchors are designed with a steel tension pin for increased tension capacities. During the tension phase of the lift, the erection anchor will work like the standard P-94 T-Anchor or the P-96 Two-Hole Anchor if tension reinforcement is added. The table on the next page shows two sets of data with regard to tension loads. If the higher loads are desired, tension bars should be placed through the lower hole of the anchor. Consult the reinforcement tables for rebar length, diameter and bend angle.



P-92-P Erection Anchor w/ Shear Plate



Typical P-92-P Fleet-Lift Erection Anchor w/ Shear Plate Application

Product	۵	в	C	п	Ultimate Mech. Cap.	Weight Per Piece	
oouc	~	2 Ton Ding	Clutch System	. (2 Top Apa	hor)	203.	
			Ciulcii Systen		,1101)		
FL147	2-1/2"	3/4"	3"	1/4"	16,000	2.25	
		4-Ton Ring	Clutch Systen	n (4-Ton Anc	hor)		
FL148	2-1/2	1-1/4"	3"	3/8"	32,200	5.41	
		8-Ton Ring	Clutch Systen	n (6-Ton Anc	hor)		
FL449	3"	1-5/8"	3-1/2"	3/8"	48,000	9.09	
8-Ton Ring Clutch System (8-Ton Anchor)							
FL149	3"	1-5/8"	3-1/2"	3/8"	64,000	10.46	

Visit Us on the Web! www.ConstructionAnchors.com



Fleet-Lift System

DAYTON/RICHMOND CONCRETE ACCESSORIES A DAYTON SUPERIOR COMPANY

P-92-P Fleet-Lift Erection Anchor w/ Shear Plate 2-Ton, 4-Ton, 6-Ton, 8-Ton

				Tension	
Product	Panel	Shear	Tension	(With Tension Ba	
Code	Thickness	Safe Working Load	Safe Working Load	Safe Working Load	
	0.4/0" N	2-Ion Ring Clutch System		4000 //	
-	3-1/2" Min.	1450 lbs.	2575 lbs.	4000 lbs.	
-	4"	1625 lbs.	2575 lbs.	4000 lbs.	
-	5″	2050 lbs.	3350 lbs.	4000 lbs.	
-	5-1/2″	2200 lbs.	3750 lbs.	4000 lbs.	
-	6"	2350 lbs.	3850 lbs.	4000 lbs.	
FL147	7"	2625 lbs.	4000 lbs.	4000 lbs.	
-	8"	2850 lbs.	4000 lbs.	4000 lbs.	
-	9"	3050 lbs.	4000 lbs.	4000 lbs.	
-	10"	3225 lbs.	4000 lbs.	4000 lbs.	
_	11"	3425 lbs.	4000 lbs.	4000 lbs.	
	12"	3675 lbs.	4000 lbs.	4000 lbs.	
		4-Ton Ring Clutch System	(4-Ton Anchor)		
_	4" Min.	2150 lbs.	3450 lbs.	8000 lbs.	
_	5"	2625 lbs.	4250 lbs.	8000 lbs.	
-	6"	3100 lbs.	5075 lbs.	8000 lbs.	
-	7"	3525 lbs.	5825 lbs.	8000 lbs.	
FL148	8"	3925 lbs.	6600 lbs.	8000 lbs.	
-	9"	4275 lbs.	7350 lbs.	8000 lbs.	
-	10"	4600 lbs.	8000 lbs.	8000 lbs.	
-	11"	4900 lbs.	8000 lbs.	8000 lbs.	
-	12"	5150 lbs.	8000 lbs.	8000 lbs.	
		8-Ton Ring Clutch System	(6-Ton Anchor)		
	6" Min.	4000 lbs.	5580 lbs.	12,000 lbs.	
-	6-1/2"	4125 lbs.	6220 lbs.	12,000 lbs.	
-	7"	4250 lbs.	6870 lbs.	12,000 lbs.	
-	7-1/2"	4350 lbs.	7500 lbs.	12,000 lbs.	
FL449	8"	4475 lbs.	7775 lbs.	12,000 lbs.	
-	9"	4725 lbs.	8300 lbs.	12,000 lbs.	
-	10"	4950 lbs.	8800 lbs.	12,000 lbs.	
-	11"	5200 lbs.	10,000 lbs.	12,000 lbs.	
-	12"	5450 lbs.	11,300 lbs.	12,000 lbs.	
		8-Ton Ring Clutch System	(8-Ton Anchor)		
	6" Min.	4000 lbs.	5580 lbs.	16,000 lbs.	
-	6-1/2"	4125 lbs.	6220 lbs.	16,000 lbs.	
-	7"	4250 lbs.	6870 lbs.	16,000 lbs.	
-	7-1/2"	4350 lbs.	7500 lbs.	16,000 lbs.	
FL149	8"	4475 lbs.	7775 lbs.	16,000 lbs.	
-	9"	4725 lbs.	8300 lbs.	16,000 lbs.	
-	10"	4950 lbs.	8800 lbs.	16,000 lbs.	
-	11"	5200 lbs.	10.000 lbs.	16.000 lbs.	
-	12"	5450 lbs	11.300 lbs	16.000 lbs	
	· -	0.00 100.		,	

Note: Safe Working Load provides a safety factor of approximately 4:1. Table is based on a minimum concrete compressive strength of 3500 PSI.



Fleet-Lift System

DAYTON/RICHM CONCRETE С CESSORIES

A DAYTON SUPERIOR COMPANY

P-92-H Fleet-Lift Two-Hole Erection Anchor and P-92-HP Fleet-Lift Two-Hole Erection Anchor w/ Shear Plate 2-Ton, 4-Ton, 6-Ton, 8-Ton

Fleet-Lift Two-Hole Erection Anchors combine the strength and spall-resistant performance of the erection anchor with the high tension capacity of a two-hole anchor. Two-hole erection anchors are used to lift whenever the lift direction applies a shear load to the precast element.

P-98-T tension reinforcement is always required with a Fleet-Lift Two-Hole Erection Anchor. Shear is resisted by a P-98 Fleet-Lift Shear Bar used in conjunction with the P-92-H or by the integral shear plate on the P-92-HP model.

Shear and tension capacities for P-92-HP Fleet-Lift Two-Hole Erection Anchors with Shear Plates are the same as the P-92-P Fleet-Lift Erection Anchors with Shear Plate.

For Tension Bar information see next page.



Typical P-92-H Fleet-Lift Erection Anchor Application



P-92-HP **Two-Hole Erection Anchor** w/ Shear Plate

Product					Ultimate Mech Can	Weight Per Piece
Code	Туре	Α	В	С	Lbs.	Lbs.
	2-	Ton Ring C	utch System (2-Ton Ancho	r)	
FL403	Н	2"	4-1/4"	3/8"	16,000	0.72
FL423 (w/ Plate)	HP	2"	4-1/4"	3/8"	16,000	1.18
FL903	Н	2"	8"	3/8"	16,000	1.62
FL403L (w/ Plate)	HP	2"	8"	3/8"	16,000	2.08
	4-	Ton Ring Cl	lutch System (4-Ton Ancho	r)	
FL075	Н	2-1/2"	7-7/16"	5/8"	32,000	2.80
FL275 (w/ Plate)	HP	2-1/2"	7-7/16"	5/8"	32,000	3.66
FL975	Н	2-1/2"	10-7/16"	5/8"	32,000	4.19
FL175L (w/ Plate)	HP	2-1/2"	10-7/16"	5/8"	32,000	5.05
	8-	Ton Ring Cl	lutch System (6-Ton Ancho	r)	
FL385L	Н	3-3/4"	13-1/4"	5/8"	48,000	7.69
	8-	Ton Ring Cl	utch System (8-Ton Ancho	r)	
FL185L	Н	3-3/4"	13-1/4"	3/4"	64,000	9.23
FL285L (w/ Plate)	HP	3-3/4"	13-1/4"	3/4"	64,000	10.29



Fleet-Lift System



A DAYTON SUPERIOR COMPANY

P-92-H Fleet-Lift Two-Hole Erection Anchor and P-92-HP Fleet-Lift Two-Hole Erection Anchor w/ Shear Plate 2-Ton, 4-Ton, 6-Ton, 8-Ton

Product Code	Panel Thickness	Shear Safe Working Load	Tension (With Tension Bar) Safe Working Load
	2-Ton Ring Clu	itch System (2-Ton Anchor)	
	4"	1325 lbs.	4000 lbs.
	5"	1525 lbs.	4000 lbs.
FL403 -	5-1/2"	1650 lbs.	4000 lbs.
& – FI 423 (w/ Plate)	6"	1750 lbs.	4000 lbs.
1 <u> </u>	7"	1900 lbs.	4000 lbs.
_	8"	2075 lbs.	4000 lbs.
FL903		Same as FL047	
FL403L (w/ Plate)		Same as FL147	
	4-Ton Ring Clu	tch System (4-Ton Anchor)	
	5-1/2"	2025 lbs.	8000 lbs.
_	6"	2250 lbs.	8000 lbs.
	6-1/2"	2425 lbs.	8000 lbs.
FL075	7"	2600 lbs.	8000 lbs.
GA	7-1/2"	2800 lbs.	8000 lbs.
	8"	3000 lbs.	8000 lbs.
_	9"	3375 lbs.	8000 lbs.
_	10"	3750 lbs.	8000 lbs.
FL975		Same as FL048	
FL175L (w/ Plate)		Same as FL148	
	8-Ton Ring Clu	tch System (6-Ton Anchor)	
FL385L		Same as FL349	
	8-Ton Ring Clu	tch System (8-Ton Anchor)	
FL185L		Same as FL049	
FL285L (w/ Plate)		Same as FL149	



Note: Safe Working Load provides a safety factor of approximately 4:1.

Table is based on a minimum concrete compressive strength of 3500 PSI.

* Tension reinforcement must be used with all two-hole erection anchors listed.

Minimum Required Tension Reinforcment

Anchor Capacity	2-Ton	4-Ton	8-Ton
Rebar Size	#3	#4	#6
Concrete Strength	Overa	all Length – "L" Di	imension
1500 PSI	3' 0"	4' 0"	6' 0"
2000 PSI	2' 9"	3' 6"	5' 6"
3000 PSI	2' 6"	3' 0"	4' 6"





Fleet-Lift System

Anchor Capacity

Concrete Strength

1500 PSI

2000 PSI

3000 PSI

Rebar Size



P-96 Fleet-Lift Two-Hole Anchor 2-Ton, 4-Ton, 8-Ton

The second hole in the P-96 Two-Hole Anchor accepts additional reinforcement. Adding rebar distributes the lifting loads deep into the concrete. The distribution of lifting stresses allows the lifting of very thin-walled panels and concrete elements, especially at low compressive strength.

When edge lifts involve shear forces, use the P-92 Two-Hole Erection Anchor.



Minimum Required Tension Reinforcement

4-Ton

#4

4' 0"

3' 6"

3' 0"

Overall Length – "L" Dimension

2-Ton

#3

3' 0"

2'9"

2' 6"



Typical Two-Hole Anchor Application

Product							Reinf. Tension Load	Ultimate Mech. Cap.	Weight Per Piece	
Code	Α	В	С	D	E	F	Lbs.	Lbs.	Lbs.	
2-Ton Ring Clutch System (2-Ton Anchor)										
FL122	1-1/4"	4"	3/8"	1-5/8"	7/8"	9/16"	4000	16,000	0.42	
FL190	1-1/4"	2-3/4"	3/8"	1-3/16"	5/8"	9/16"	4000	16,000	0.27	
			4	-Ton Ring Clu	tch System (4-Ton Anc	hor)			
FL124	1-1/2"	5-1/2"	5/8"	1-13/16"	1"	1"	8000	32,000	1.23	
8-Ton Ring Clutch System (8-Ton Anchor)										
FL125	2-1/2"	7"	3/4"	2-5/8"	1-7/16"	1"	16,000	64,000	3.31	
Note: Safe W	orking Load	l provides a s	afety factor of	approximately 4:	1					

8-Ton

#6

6' 0"

5' 6"

4' 6"

Note: Safe Working Load provides a safety factor of approximately 4:1. Table is based on minimum concrete compressive strength of 3500 PSI.



Fleet-Lift System

P-98-S Fleet-Lift Shear Bars for Fleet-Lift Erection Anchors

P-98-S Fleet-Lift Shear Bar is specially engineered and manufactured to be a simple and economical reinforcement for Fleet-Lift Erection Anchors. The P-98-S Shear Bar fits over the erection anchor and distributes the shear load laterally in the concrete.

For the shear bar to work properly, it must be secured tightly in the side notch of the anchor. P-98 Shear Bars are available in 2, 4, and 8-ton capacities.



DAYTON/RICHM

C C E S S O R I E S A DAYTON SUPERIOR COMPANY

CONCRETE

P-98-S Shear Bar





Typical Shear Bar Application

Nominal Clutch System	Product Code	Height	Wire Diameter	Minimum Panel Thickness	Weight Per Piece Lbs.
2-Ton	FL140	2-1/2"	1/2"	4"	0.98
4-Ton	FL141	3-5/16"	1/2"	5-1/2"	1.07
8-Ton	FL142	4-15/16"	1/2"	7-1/2"	1.23

P-98-T Tension Reinforcement



Tension reinforcement is used with various Fleet-Lift anchors to provide a simple, inexpensive method of distributing tension loads into the precast element.

		Overall Length					
Nominal	Rebar	1500 PSI	2000 PSI	3000 PSI			
Clutch System	Size	Concrete	Concrete	Concrete			
2-Ton	#3	3' 0"	2' 9"	2' 6"			
4-Ton	#4	4' 0"	3' 6"	3' 0"			
8-Ton	#6	6' 0"	5' 6"	4' 6"			
* Grade 60 rebar ma	aterial.						

TOLL FREE 800-892-7224 800-821-7735

a construction anchors, inc.

Fleet-Lift System

DAYTON/RICHM CONCRETE ACCESSORIES A DAYTON SUPERIOR COMPANY

P-91 Fleet-Lift Standard Ring Clutch

The P-91 Fleet-Lift Ring Clutch consists of a clutch body, curved bolt, and a high-strength bail. Installation and release is safe and simple. After the clutch is inserted over the anchor head and into the recess, the curved bolt is rotated through the anchor "eye" and does not come in contact with the concrete.

Rotation of the standard bail is a full 360°. Once engaged and under at least 400 pounds of load, the clutch cannot be released.

Inspection and Maintenance

The P-91 Fleet-Lift Ring Clutch may be subjected to wear, misuse, overloading and many other factors which may affect the clutch's rated safe working load. Therefore, the ring clutch must be inspected by the user at least once a month to determine its general condition and degree of wear. Also check to make sure the bail can rotate freely in all directions. During the monthly inspection, check for evidence of heat application. If evidence of heat application is found, the clutch must be scrapped. Check for bent or twisted bails. Discard any unit that has a bail that has been bent or twisted.* The proper method to use in scrapping a clutch with a bad bail is to cut off and remove the bail. No repair or welding of Fleet-Lift Ring Clutches is permitted. The rated safe working load provides a safety factor of approximately 5:1 – ultimate to rated load.



* Bail replacement available; contact nearest customer service.

Ring Clutch System	Product Code	А	В	С	D	E	F	G	Veight Per Piece Lbs.
2-Ton	FL001	3-3/4"	2-5/8"	10-3/8"	2-3/4"	7-3/8"	2-5/8"	1"	4.60
4-Ton	FL002	4-5/8"	2-5/8"	12-1/2"	3-11/16"	8-1/2"	3-3/8"	1-3/8"	9.00
8-Ton	FL003	5-7/8"	3-5/8"	16-1/2"	5-5/16"	11"	4-7/8"	1-3/4"	20.00

P-91-CB Cable Bail Ring Clutch

The additional flexibility of the P-91-CB Fleet-Lift Cable Bail Ring Clutch can be the solution to many difficult situations involving lifting and rotating to vertical. Cable Bails can also be used to replace bent or damaged bails on standard ring clutches. The rated safe working load provides a safety factor of approximately 5:1 – ultimate to rated load.

Maintenance of the Cable Bail Ring Clutch

After every use, inspect the wire cable for damage or extreme wear, bends or kinks, fraying or loosening of outer strands in the free length, squeezings in the free length or support area, and tuberculations. Inspect for cable ruptures in excess of four runners in 3 diameters of the cable, six runners in 6 diameters of the cable, or sixteen runners in 30 diameters of the cable.

If the cable is damaged according to the criteria above, it must be replaced. Dayton/Richmond can arrange for cable replacement. Contact customer service for information and cost.

Ring Clutch System	Product Code	A	В	Weight Per Piece Lbs.
2-Ton	FL001C	24"	1/2"	4.60
4-Ton	FL002C	24"	5/8"	9.00
8-Ton	FL003C	29"	3/4"	20.00

Visit Us on the Web! www.ConstructionAnchors.com



13900 E. 350 Highway Kansas City, MO 64138

P-91 Ring Clutch

P-91-CB Cable Bail **Ring Clutch**

Fleet-Lift System



P-99 & P-99-N Plastic Recess Members (Reusable Urethane)

The P-99 and P-99-N Fleet-Lift Plastic Recess Members are molded from elastomeric thermal-set urethane. It is resistant to heat and formrelease agents, and is designed for multiple reuses. Embedded in the highly durable material is a stainless steel protrusion that engages the anchor and secures it in position during concrete placement.

Stainless Steel Protrusion

Section View

Fixed Wing Nut

7" (Typ.)

P-101 Holding Rod

Attachment is made with the P-100 Fleet-Lift Holding Plate or the 3/8" P-101 Holding Rod. Note that all Fleet-Lift recess members use the same holding rod to simplify system use.



Typical Plastic Recess Member Application P-99 Plastic Recess Member

Ring Clutch System	Anchor Size	Product Code	A	В	с	D	E	F	Weight Per Piece Lbs.
P-99-N 2-Ton	1-Ton	FL051	1-11/16"	1-3/4"	4-1/16"	3/16"	1-3/16"	3/8"	0.21
P-99 2-Ton	2-Ton	FL200	1-11/16"	1-3/4"	4-1/16"	3/8"	1-3/16"	3/8"	0.20
P-99 4-Ton	4-Ton	FL062	2-1/8"	2-5/16"	5-3/16"	5/8"	1-11/32"	3/8"	0.50
P-99 8-Ton	8-Ton	FI 121	3-1/8"	3-5/16"	7-13/16"	3/4"	1-31/32"	3/8"	1.50

Note: The P-99-N Recess Member is used in conjunction with the P-93 L-Anchor only.

P-100 Fleet-Lift Holding Plate and P-101 Fleet-Lift Holding Rod

P-100 Holding Plate

Recess Member	Product Code	А	в	С	Weight Per Piece Lbs.			
	P-100 Holding Plate							
2-Ton	FL160	5/8"	2-3/4"	10mm	0.14			
4-Ton	FL144	1-1/4"	3-3/8"	10mm	0.24			
8-Ton	FL111	1-3/4"	4-7/8"	12mm	0.58			
		P-101 H	Holding Rod					
All	FL131	7"	3/8" Dia. Cor	ntour Thread	0.24			

Note: 3/8" Coil Rod may be special ordered in longer lengths.



LOCAL 816-525-3640 FAX 816-525-4533

3/8" Dia. Coil Thread

Division

Fleet-Lift System



P-99-C Fleet-Lift Cast Iron Recess Members

The P-99-C Fleet-Lift Cast Iron Recess Member is designed for high reuse and high curing temperatures. The cast iron recess member uses a steel wedge through the anchor eye to secure the anchor in place, and a foam strip that fits over the head to prevent concrete from entering the void.

The P-99-C Cast Iron Recess Member assembly is secured to the formwork with either the 3/8" coil thread P-101 Fleet-Lift Holding Rod or simply nailed to the formwork. Optional 1/2" diameter coil thread is available on special order.



P-99-C Cast Iron Recess Member

Ring Clutch System	Product Code	A	В	С	Weight Per Piece Lbs.
2-Ton	FL078	1-7/16"	1-3/4"	4"	0.72
4-Ton	FL100	1-7/8"	2-3/8"	5"	1.22
8-Ton	FL015	2-3/4"	3-1/4"	7-1/4"	3.50



P-102 Steel Wedge

Recess Load Range	Product Code	Weight Per Piece Lbs.
2-Ton	FL017	0.13
4-Ton	FL084	0.38
8-Ton	FL085	0.94



Anchor Load Range	Product Code	Units Per Package	Weight Per Package Lbs.
1 & 2-Ton	FL087	1000	5.00
3 & 4-Ton	FL069	1000	5.00
6 & 8-Ton	FL091	500	10.00





P-99-C Cast Iron Recess Member Assembly Sequence

Fleet-Lift System



P-99-D Disposable Recess Members (PVC)

The new Fleet-Lift Disposable Recess Members are the most versatile units available. They can be used to edge install an erection anchor, preset a T-anchor with wire base, or "wet set" a standard T-anchor. The cover/ patch also installs tightly over the reusable recesses to fully protect the unit without the use of tape. The cover/patch is "concrete gray" in color and can be used as a patch over the recess opening temporarily or permanently.

Recess Member Components

Disposable Recess Members can be ordered in sets consisting of a body with a preinstalled clip and a lid, or as individual pieces. This gives the system the versatility to meet your requirements without having to order parts that are not needed.



Disposable Recess Set



P-99-D Disposable Recess Member

Ring Clutch System	Anchor Size	Product Code	Description	A	в	с	Weight Per Piece Lbs.
2-Ton	2-Ton	FL066 B	Body	_	_	_	0.10
2-Ton	2-Ton	FL066 L	Lid	2-5/16"	_	4-1/4"	0.10
2-Ton	2-Ton	FL066 S	Set	2-5/16"	2"	4-1/4"	0.20
4-Ton	4-Ton	FL067 B	Body	-	_	_	0.15
4-Ton	4-Ton	FL067 L	Lid	2-3/4"	_	5-1/2"	0.12
4-Ton	4-Ton	FL067 S	Set	2-3/4"	2-1/2"	5-1/2"	0.27
8-Ton	8-Ton	FL068 B	Body	-	_	_	0.25
8-Ton	8-Ton	FL068 L	Lid	3-3/4"	_	8-1/8"	0.35
8-Ton	8-Ton	FL068 S	Set	3-3/4"	3-1/2"	8-1/8"	0.60

