

USER INSTRUCTIONS

ROSE D-PLATE™ ANCHORAGE CONNECTOR

⚠ WARNING

National standards and state, provincial and federal laws require the user to be trained before using this product. Use this manual as part of a user safety training program that is appropriate for the user's occupation. These instructions must be provided to users before use of the product and retained for ready reference by the user. The user must read, understand (or have explained), and heed all instructions, labels, markings and warnings supplied with this product and with those products intended for use in association with it. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

1.0 D-PLATE ANCHORAGE CONNECTOR MODELS AND SPECIFICATIONS**TABLE 1. D-PLATE ANCHORAGE CONNECTOR MODELS COVERED BY THESE INSTRUCTIONS**

MODEL NUMBER	MATERIAL	MINIMUM BREAKING STRENGTH		LENGTH		APPROXIMATE WEIGHT	
		LBF	kN	IN	CM	LBS	KG
506632	Zinc plated steel	5,000	22.2	4.8	1.5	1.3	0.6
506633	Stainless steel	5,000	22.2	4.8	1.5	1.6	0.7

1.1 SPECIFICATIONS - ROSE D-PLATE ANCHORAGE CONNECTOR

- Rose D-Plate Anchorage Connectors identified in Table 1 meet ANSI Z359.1 and ANSI A10.14 standards and applicable OSHA regulations.
- The D-Plate Anchorage Connector has a minimum breaking strength of 5,000 lbf (22.2 kN).
- The Plate is constructed of low carbon steel, zinc plated (model 506632), or stainless steel (model 506633). The D-ring is forged alloy steel, zinc plated, and 100% proof tested to 3,600 lbf (16 kN).
- The D-Plate Anchorage Connector is designed for the attachment of a single personal fall arrest system.
- When used as part of a personal fall arrest system, fall arresting forces must not exceed 1,800 lbf (8 kN).
- Capacity is 310 lb (140 kg) including weight of the user plus clothing, tools and other user-borne objects.

2.0 TRAINING

It is the responsibility of the purchaser of the Rose D-Plate Anchorage Connector to assure that D-Plate Anchorage Connector users are made familiar with these User Instructions and trained by a competent person in: (1) workplace hazard awareness and hazard identification, evaluation and control; (2) how to properly select, inspect, use, store and maintain the D-Plate Anchorage Connector; (3) how to determine and acceptably limit free fall distance, total fall distance, and maximum arresting force; (4) proper attachment locations and proper attachment methods including compatibility of connections to reduce the probability of accidental disengagement ("rollout"); (5) how to evacuate from a hazardous space; (6) what to do after a fall to protect the user from injury, including emergency rescue planning and execution; and (7) the consequences of improper use of the equipment and of failure to follow instructions and training. If the D-Plate Anchorage Connector is to be used for confined space applications, the user must also be trained in accordance with the requirements of OSHA regulation 29 CFR 1910.146 and ANSI Z117.1. Training must be conducted without undue exposure of the trainee to hazards. The effectiveness of training should be periodically assessed (at least annually) and the need for more training or retraining determined. Rose Manufacturing Company offers training programs. Contact Rose for training information.

3.0 HAZARDS IDENTIFICATION, EVALUATION AND CONTROL

⚠ CAUTION

Do not use the Rose D-Plate Anchorage Connector unless a qualified person has inspected the workplace and determined that identified hazards can neither be eliminated nor exposures to them prevented.

Prior to selecting personal protective equipment, the user must make a workplace assessment of hazards and conditions where the equipment is required. Such assessment must, at a minimum, identify the presence of:

- Hot objects
- Sparks
- Flames
- Heat-producing operations
- Confined space hazards
- Chemicals
- Electrical hazards
- Environmental contaminants
- Sharp objects
- Abrasive surfaces
- Moving equipment
- Moving materials
- Unguarded openings
- Climatic factors
- Weather factors
- Unstable/uneven surfaces
- Slippery surfaces

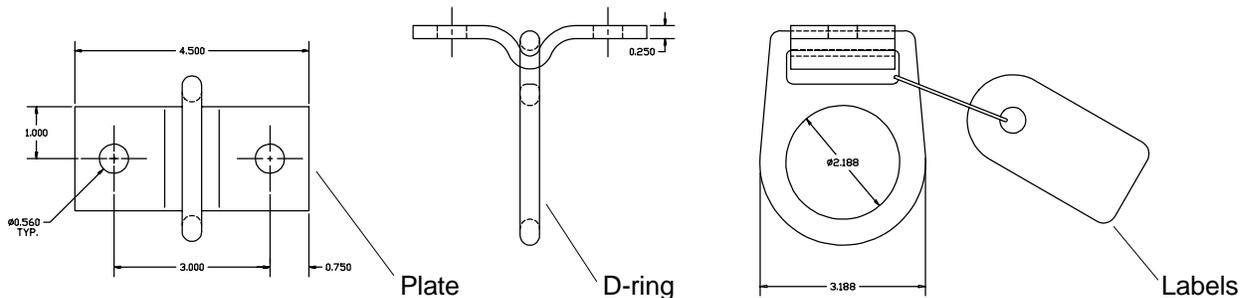
Foreseeable changes in any of these conditions, taken individually or collectively, must be identified. The materials and construction of the equipment must be considered in the selection process such that these workplace conditions are suitably addressed and responded to. The equipment must match the work situation and workplace environmental factors.

The workplace assessment must identify all paths of intended user movement and all hazards along such paths. The user must identify the required range of mobility in each hazard zone and note the location and distance to all obstructions in potential fall paths. Lateral obstructions which could be contacted in a pendular fall arrest must be noted. An assembly connecting a harness to an anchorage must be selected which will satisfactorily limit total fall distance and allow for dynamic elongation and activation distance of the assembly. If the D-Plate Anchorage Connector is to be used for confined space entry operations, the workplace assessment must comply with the requirements of OSHA regulation 29 CFR 1910.146 and ANSI Z117.1.

4.0 DESCRIPTION OF ROSE D-PLATE ANCHORAGE CONNECTOR

The Rose D-Plate Anchorage Connector is a component designed specifically for coupling a single personal fall arrest system to an anchorage. The Rose D-Plate Anchorage Connector is a permanent, overhead anchorage connector intended for use on such anchorages as beams or girders.

4.1 D-PLATE ANCHORAGE CONNECTOR COMPONENTS



- 4.1.1 D-RING:** The Rose D-ring is a connection element that is compatible with Rose snaphooks and carabiners. The D-ring is attached to the anchorage beam or girder by use of the mounting plate. When installed the D-ring will swivel freely in one axis to accommodate user movements.
- 4.1.2 MOUNTING PLATE:** The Mounting Plate is a steel plate that is formed to accept the Rose D-ring and has been drilled to allow the user to install the plate and D-ring to a pre-drilled beam or girder with user-supplied fasteners. Refer to section 8.2.2 for a list of user-supplied fasteners required for installation.

5.0 D-PLATE ANCHORAGE CONNECTOR SELECTION AND APPLICATIONS

- 5.1 PURPOSE OF ROSE D-PLATE ANCHORAGE CONNECTOR:** The D-Plate Anchorage Connector is primarily a component of a personal fall arrest system, serving as an anchorage connector. It may also be used for work positioning, travel restriction, rescue, retrieval, evacuation and confined space entry/exit operations, depending on the associated system components used together with the D-Plate Anchorage Connector.

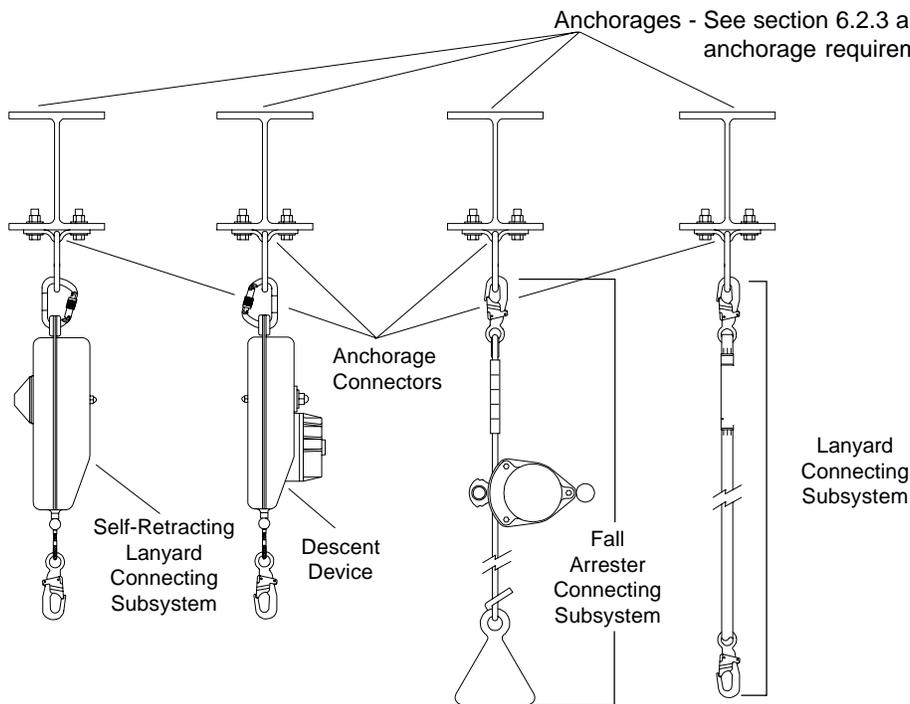
Use of the D-Plate Anchorage Connector must comply with these User Instructions and, further, is subject to approval under the user's safety rules and regulations and by the user's safety director, supervisor, or a qualified safety engineer. Be certain the selection of a D-Plate Anchorage Connector is suited for the intended use and work environment. If there is any conflict between these User Instructions and other directives or procedures of the user's organization, do not use the D-Plate Anchorage Connector until such conflicts are resolved. Consult all local, state, and federal Occupational Health and Safety Administration (OSHA) requirements for personal safety equipment. Also refer to the latest revision of ANSI Z359.1 and ANSI A10.14 standards for more information on Anchorage Connectors and associated system components. In Canada, refer to provincial and federal regulations.

- 5.2 USAGE LIMITATIONS:** The following applications limitations must be considered and planned for before using the Rose D-Plate Anchorage Connector:
- 5.2.1 PHYSICAL LIMITATIONS:** The D-Plate Anchorage Connector is designed for use by one person with a combined total weight no greater than 310 lbs (140 kg), including clothing, tools, and other user-borne objects.
- 5.2.2 CHEMICAL HAZARDS:** Acidic, alkaline, or other environments with harsh substances may damage the hardware elements of the D-Plate Anchorage Connector. If working in a chemically aggressive environment, consult Rose Manufacturing Company to determine which D-Plate Anchorage Connector material is better for your specific conditions. When working in the presence of chemicals, more frequent inspection of the D-Plate Anchorage Connector is required.
- 5.2.3 CORROSION:** Do not expose the D-Plate Anchorage Connector to corrosive environments for prolonged periods. Organic substances and salt water are particularly corrosive to metal parts. When working in corrosive environments, more frequent inspection, cleaning and drying of the D-Plate Anchorage Connector is required. See sections 9, 11 and 12 for cleaning and inspection details.
- 5.2.4 ELECTRICAL HAZARDS:** Use extreme caution when working near energized electrical sources. Metal hardware will conduct electric current. Maintain a safe working distance {preferably at least 10 ft (3 m)} from electrical hazards.
- 5.2.5 IMPACT FORCES:** Any D-Plate Anchorage Connector which has been subjected to the forces of arresting a fall must be immediately removed from service and marked as "UNUSABLE" until destroyed.

6.0 SYSTEMS REQUIREMENTS

The D-Plate Anchorage Connector is one component of multi-component systems. Without the other necessary components, the D-Plate Anchorage Connector serves no useful purpose. There are several different types of systems for use at heights and in confined spaces.

- 6.1 SYSTEM TYPES:** Systems are classified according to their intended purposes. There are six classifications of systems which may be used individually or in combinations. The six basic systems classifications are:
 - Fall Arrest
 - Personnel-riding
 - Evacuation
 - Climbing protection
 - Restraint
 - Rescue
- 6.1.1 FALL ARREST SYSTEMS:** A fall arrest system is an assembly of components and subsystems, including the necessary connectors, used to arrest the user in a fall from a working height and suspend the user until rescue can be effected. A fall arrest system must always include a harness and connecting means between the harness and an anchorage or anchorage connector. Such connecting means may consist of a lanyard, energy (shock) absorber, fall arrester (rope grab), lifeline, self-retracting lanyard or suitable combinations of these.
- 6.1.1.1 Lanyard Connecting Subsystem** is the term applied to an assembly, including the necessary connectors, which is comprised of a lanyard and a shock absorber. The lanyard and shock absorber are usually permanently coupled together along with self-locking snaphooks at each end. The subsystem is attached between the fall arrest attachment (back D-ring) of the harness and an anchorage or anchorage connector. **The Rose D-Plate Anchorage Connectors identified in Table 1 are compatible for use with fall arrest lanyard connecting subsystems equipped with locking snaphooks up to 0.75 in (20 mm) gate opening size.**
- 6.1.1.2 Fall Arrester Connecting Subsystem** is the term applied to an assembly, including the necessary connectors, which is comprised of a fall arrester (rope grab) and a vertical lifeline. Sometimes a lanyard or lanyard with integral shock absorber, including the necessary connectors, is connected to the rope grab. The vertical lifeline must have a lifeline tensioner (counterweight), a connector for anchoring it, and may have a shock absorber. The subsystem is attached between the fall arrest attachment (back D-ring) of the harness and an anchorage or anchorage connector. Fall arrester connecting subsystems are sometimes suitable for use in climbing protection systems. See section 6.1.2. **Rose D-Plate Anchorage Connectors identified in Table 1 are suitable for use in fall arrester connecting subsystems.**



6.1.1.3 Self-Retracting Lanyard Connecting Subsystem is the term applied to an assembly, including the necessary connectors, comprised of a self-retracting lanyard only or a self-retracting lanyard and added shock absorber at the point of attachment to the user's harness. The subsystem is attached between the fall arrest attachment (back D-ring) of the harness and an anchorage or anchorage connector. These subsystems are sometimes suitable for use in climbing protection systems. See section 6.1.2. **The Rose D-Plate Anchorage Connectors identified in Table 1 are suitable for use with self-retracting lanyard connecting subsystems.**

6.1.2 CLIMBING PROTECTION SYSTEMS: A climbing protection system is an assembly of components and subsystems, including the necessary connectors, used to arrest the user in a fall from a working height and suspend the user until rescue can be effected. Such systems are used for climbing ladders and structures that are designed for climbing. They may either be temporary (portable) or permanent. Temporary climbing protection systems are described in sections 6.1.1.2 and 6.1.1.3. Permanent climbing protection systems are ones of the rigid rail type such as the Rose Dyna-Glide™ systems. In those systems, a rigid rail is permanently attached to the structure to be climbed. A fall arrester device is attached to and glides on the rail to permit ascent and descent. It quickly locks in case of a fall. The Dyna-Glide fall arrester is attached between the front attachment (chest D-ring) of a Rose Pullover harness and the fall arrester by use of a carabiner. Contact Rose for more information about Dyna-Glide climbing protection systems. **The Rose D-Plate Anchorage Connectors identified in Table 1 are suitable for use in temporary climbing protection systems.**

6.1.3 RESTRAINT SYSTEMS: A restraint system is an assembly of components and subsystems, including the necessary connectors, used to:

- (a) stabilize and partially support the user at an elevated work location and allow free use of both hands. This type of restraint system is referred to as a work positioning system or, simply, a positioning system.
- (b) restrict the user's motion so as to prevent reaching a location where a fall hazard exists. This type of system is referred to as a travel restriction system.

A positioning system includes a harness and connecting means between the harness and an anchorage or anchorage connector. Such connecting means usually consists of a positioning lanyard which is connected to both hip D-rings and wraps around or connects to an anchorage or anchorage connector. A positioning system must always be backed up by a fall arrest system. A travel restriction system consists of a harness and a fixed-length or adjustable-length lanyard connected between any one of the harness D-rings and an anchorage or anchorage connector. **The Rose D-Plate Anchorage Connectors described by these instructions are suitable for use in restraint systems.**

6.1.4 PERSONNEL-RIDING SYSTEMS: A personnel-riding system is an assembly of components and subsystems, including the necessary connectors, used for lifting and lowering a worker to and from a work station which is not accessible by other preferred means, and potentially for positioning the worker while at that work station. Personnel-riding systems are of two

general types, namely: (a) the mobile supported aerial platform type (e.g. manually- and self-propelled platforms and vehicle-mounted platforms), and (b) suspended personnel hoisting type (e.g. suspended scaffolds, suspension seats, and suspension harnesses). A harness must be used in both of these different systems; however, the way it is used will differ. When working on mobile supported aerial platforms, the user should use a restraint system (see section 6.1.3) anchored to the platform to provide restraint against falling from the platform. When working with the suspended personnel hoisting type of system, the user must employ a fall arrest system of either the self-retracting lanyard type or the fall arrester (rope grab) type. It is permissible to use a harness as a suspension harness for making access to the work station if the access time is of very short duration and the use of a suspension seat is not possible. **The Rose D-Plate Anchorage Connectors identified in Table 1 are suitable for use in personnel-riding systems.** Do not use a harness for fully suspended work positioning. Contact Rose for separate instructions on the associated equipment used in personnel-riding systems.

6.1.5 RESCUE SYSTEMS: A rescue system is an assembly of components and subsystems, including the necessary connectors, used for moving an incapacitated or isolated person from a hazardous place to a safe place under alert or emergency conditions. An isolated person is one who has no available means of access to a safe place or is physically stranded or trapped. Rescue systems require actions of specially trained rescuers to effect the rescue of the incapacitated or isolated person. When rescuing a person who is wearing a harness, it is generally best to connect the rescue line to the chest D-ring. Alternatively, it is acceptable (but less desirable) to connect the rescue line to both of the shoulder D-rings using a "Y" retrieval lanyard. If the harness being used by the person being rescued has neither a chest D-ring nor shoulder D-rings, the back D-ring may be used as a last resort to connect the rescue line. Rose strongly recommends that the user select a harness with a chest D-ring to provide for rescue. **The Rose D-Plate Anchorage Connectors identified in Table 1 may be used in certain rescue applications.**

6.1.6 EVACUATION SYSTEMS: An evacuation system is an assembly of components and subsystems, including the necessary connectors, employed by the user to move, unassisted by others, from a hazardous place to a safe place under alert or emergency conditions. An evacuation system consists of a harness and connecting means between the harness and an anchorage or anchorage connector. Such connecting means may consist of: (a) the Rose Dynescape™ Automatic Descender, (b) the Rose Dynescape™ Manual Descender, or (c) the Rose Fallbloc™ System. See the separate instructions for this equipment. **The Rose D-Plate Anchorage Connectors identified in Table 1 are suitable for use in evacuation systems.**

6.1.7 COMBINATIONS OF SYSTEMS: Systems for fall arrest, restraint, climbing protection, personnel-riding, rescue and evacuation are often used in combination. For example, positioning type restraint systems must be backed up by a separate and independent fall arrest system. Hands-on training is required to obtain the necessary information and skills needed to work with combinations of systems. Refer to the separate instructions accompanying the several components and subsystems necessary to make up these systems.

6.2 COMPATIBILITY OF SYSTEM PARTS

6.2.1 COMPATIBILITY OF COMPONENTS AND SUBSYSTEMS: Rose D-Plate Anchorage Connectors are designed to be used with Rose approved components and connecting subsystems. Use of the D-Plate Anchorage Connector with products made by others that are not approved in writing by Rose may adversely affect the functional compatibility between system parts and the safety and reliability of the complete system. Connecting subsystems must be suitable for use in the application (e.g. fall arrest, climbing protection, restraint, rescue or evacuation). Rose Manufacturing Company produces a complete line of connecting subsystems for each application. Contact Rose for further information. Refer to the manufacturer's instructions supplied with the component or connecting subsystem to determine suitability. For fall arrest applications using Rose D-Plate Anchorage Connectors, the maximum fall arrest force must not exceed 1,800 lbf (8 kN). Contact Rose Manufacturing Company with any questions regarding compatibility of equipment used with the Rose D-Plate Anchorage Connectors.

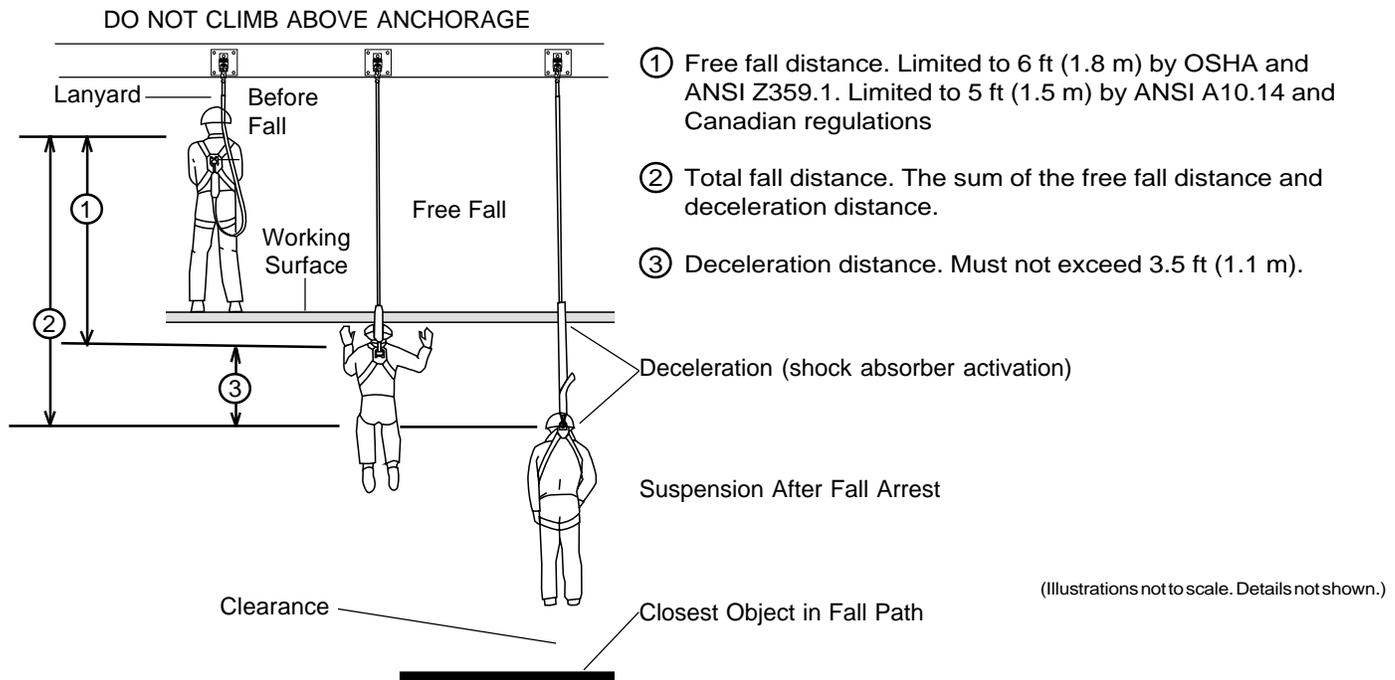
6.2.2 COMPATIBILITY OF CONNECTORS: Connectors, such as D-rings, snaphooks, and carabiners, must be rated at 5,000 lbf (22 kN) minimum breaking strength. Rose connectors meet this requirement. Connecting hardware must be compatible in size, shape, and strength. Non-compatible connectors may accidentally disengage ("rollout"). Always verify that the connecting snaphook or carabiner and the D-ring on the harness or anchorage connector are compatible. Use only self-closing, self-locking snaphooks and carabiners (as defined and required by ANSI Z359.1).

6.2.3 ANCHORAGES AND ANCHORAGE CONNECTORS: Anchorages for personal fall arrest systems must have a strength capable of supporting a static load, applied in directions permitted by the system, of at least: (a) 3,600 lbf (16 kN) when certification exists, or (b) 5,000 lbf (22.2 kN) in the absence of certification. See ANSI Z359.1 for definition of certification. When more than one personal fall arrest system is attached to an anchorage, the anchorage strengths set forth in (a) and (b) must be multiplied by the number of systems attached to the anchorage. See ANSI Z359.1, section 7.2.3. This requirement is consistent with OSHA requirements under 20 CFR 1910, Subpart F, Section 1910.66, Appendix C. In addition, it is recommended that the user of personal fall arrest systems refer to ANSI Z359.1, Section 7, for important considerations in equipment selection, rigging, use, and training.

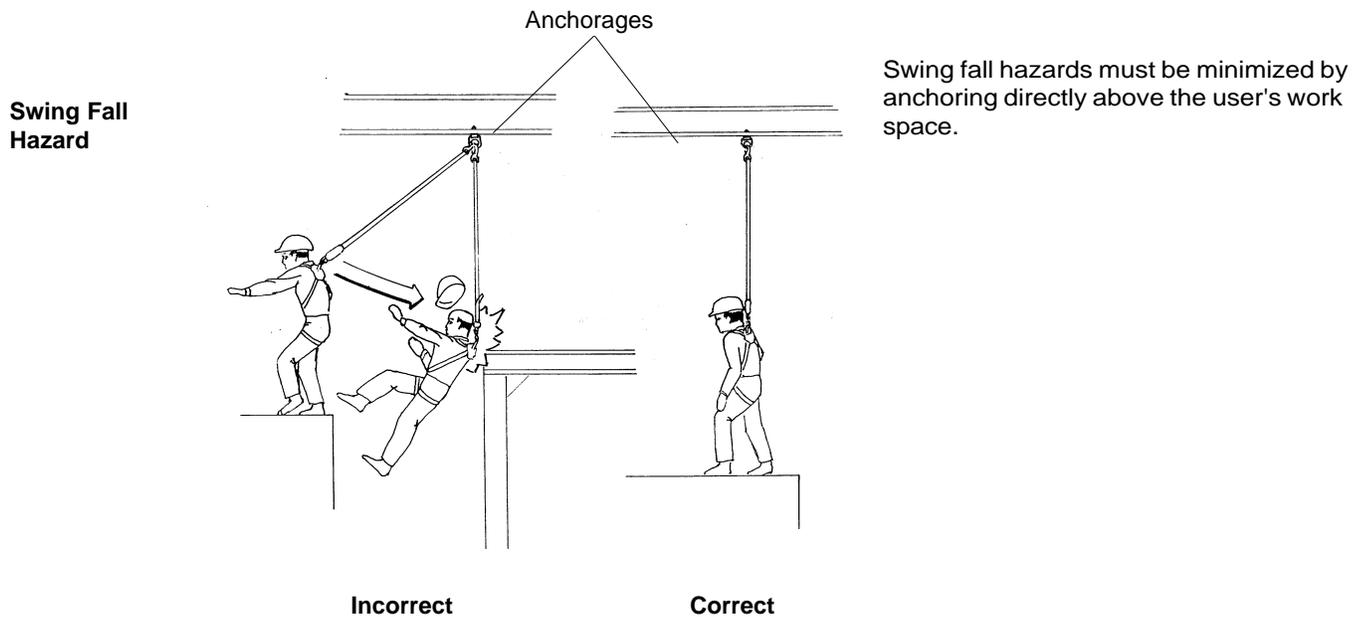
7.0 PLANNING THE USE OF SYSTEMS

Perform the hazard identification and evaluation described in section 3 of these instructions. Then plan the system(s) before starting work. Consider all possible paths of user movement and all factors that could affect the user's safety before, during, and after a fall anywhere along these paths. A qualified person must select the components, materials, anchorage and anchorage connectors to match the system application, the work, workplace hazards, and the environment. Consider the following points when planning the system(s).

- 7.1 ANCHORAGE AND ANCHORAGE CONNECTOR SELECTION:** Determine the necessary locations of anchorages to assure that the user will be continuously connected when exposed to hazards of falling. Select anchorages that are stable and have the strength required by section 6.2.3 of these instructions. Carefully select the locations of the anchorages to: (a) reduce possible free fall distance, (b) prevent swing fall hazards, and (c) provide clear space in the potential fall paths to avoid striking an object. Do not select anchorage locations that will require the user to work above them as this will increase the potential free fall and total fall distances. Plan the types of anchorage connectors that will need to be selected and refer to these instructions.
- 7.2 FREE FALL DISTANCE, TOTAL FALL DISTANCE, AND SYSTEM ELONGATION:** Personal fall arrest systems must be selected and rigged to ensure that potential free fall distances will never exceed 6 ft (1.8 m) as required by OSHA and ANSI Z359.1. [In Canada, free fall distance is limited to 5 ft (1.5 m) by regulation. ANSI A10.14 also restricts free fall distance to 5 ft (1.5 m).] See separate instructions for connecting subsystems to determine the deceleration distance and dynamic elongation which must be allowed for in the space of potential fall paths. Total fall distance is the sum of free fall distance and deceleration distance. Dynamic elongation of the system (temporary elastic stretch of connecting components and subsystems) must be added to total fall distance and clearance allowed.



- 7.3 USER MOVEMENTS:** Identify all necessary movements of the user and the materials and equipment needed to perform the planned work. Plan for avoidance of the crossing or tangling of connecting subsystems of two or more workers. Anticipate user movements that might introduce hazards of the connecting subsystem passing under, about or between body parts or invite the user to clamp, knot or otherwise prevent the connecting subsystem from functioning properly. Establish controls to prevent these occurrences.
- 7.4 PENDULUM (SWING) FALLS:** Swing falls can occur when the system is not anchored directly above the user. The force of striking an object in a pendular motion can cause serious injury. Always minimize swing falls by working as directly below the anchorage point as possible.



7.5 ANCHORAGE LOADING: The specific application will determine potential directions of loading. Perform a workplace assessment in accordance with section 3 and limit exposure to swing falls in accordance with section 7.4 to avoid side loading situations.

⚠ CAUTION

The D-Plate Anchorage Connector is not suited for supporting side loads. Installation must be planned so that potential fall arrest loads are applied vertically and directly below the anchorage connector.

7.5.1 FALL ARREST: In fall arrest applications, the D-Plate Anchorage Connector should be mounted to the underside of a horizontal beam or girder with the D-ring hanging straight down when properly assembled to the anchorage. In this position the D-ring is free to swing from side to side about the long axis of the D-ring slot. Care should be taken to mount the D-Plate Anchorage Connector so that user movement does not cause loading other than straight down from the point of attachment.

7.5.2 RESTRAINT: In restraint applications, the D-Plate Anchorage Connector may be mounted on a vertical surface such as a vertical column of sufficient strength as defined in section 7.1.

7.6 CLEAR SPACE IN FALL PATH: Make certain that enough clearance is available in all potential fall paths to prevent striking an object. The amount of clearance needed depends upon the type of connecting subsystem used, and the location of the anchorage. Consult the manufacturer's instructions for the particular connecting subsystem or component for clearance needed.

7.7 HAZARDS IDENTIFIED IN WORKPLACE ASSESSMENT: All hazards of the type set forth in section 3 of these instructions must be addressed and suitable controls planned and implemented. For example, if work must be performed near unavoidable sharp edges, plan to protect against cutting by use of heavy padding or other means of covering the sharp edge.

7.8 RESCUE AND EVACUATION: The user must have a rescue plan and the means at hand to implement it. The plan must take into account the equipment and special training necessary to effect prompt rescue under all foreseeable conditions. If the rescue be from a confined space, the provisions of OSHA regulation 1910.146 and ANSI Z117.1 must be taken into account. Although a rescue plan and the means to implement it must always be in place, it is a good idea to provide means for evacuation without assistance of others. This will usually reduce the time to get to a safe place and reduce or prevent the risk to rescuers.

8.0 USAGE

8.1 D-PLATE ANCHORAGE CONNECTOR INSPECTION BEFORE EACH USE: Inspect the D-Plate Anchorage Connector to verify that it is in serviceable condition. See section 11 for inspection details. Do not use D-Plate Anchorage Connector if inspection reveals an unsafe condition.

8.2 INSTALLATION OF THE D-PLATE ANCHORAGE CONNECTOR

8.2.1 ANCHORAGE PREPARATION: Begin by preparing the anchorage (e.g. beam, girder, etc.). The anchorage should be clean and dry before installing the D-Plate Anchorage Connector. Holes must be drilled into the flange of the anchorage that match the pattern of the mounting plate and the diameter of the mounting plate holes and the size of the user-supplied bolts. See sections 3 and 7 for considerations in locating the anchorage connectors for the work to be performed. See section 4 for the mounting plate hole pattern.

CAUTION

When installing or removing the D-Plate Anchorage Connector, limit exposure to fall hazards. A separate independent fall arrest system may be required.

8.2.2 USER SUPPLIED FASTENERS: The user must select and obtain the appropriate fasteners to attach the D-Plate Anchorage Connector. Refer to the illustrations in section 8.2.3.

8.2.2.1 For W-beams:

- Two (2) Grade-5 bolts, 0.5 in (13 mm) diameter, of length sufficient to reach through the plate, beam flange and lock washer.
- Four (4) SAE-type flat washers, 0.5 in (13 mm) nominal inside diameter.
- Two (2) lock nuts, 0.5 in (13 mm) with threads to match the Grade-5 bolts.

8.2.2.2 For S-beams:

- Two (2) Grade-5 bolts, 0.5 in (13 mm) diameter, of length sufficient to reach through the plate, beam flange, tapered washer and lock washer.
- Two (2) tapered (angle) washers, 0.5 in (13 mm) nominal inside diameter.
- Four (4) SAE-type flat washers, 0.5 in (13 mm) nominal inside diameter.
- Two (2) lock nuts, 0.5 in (13 mm) with threads to match the Grade-5 bolts.

8.2.3 INSTALLATION SEQUENCE:

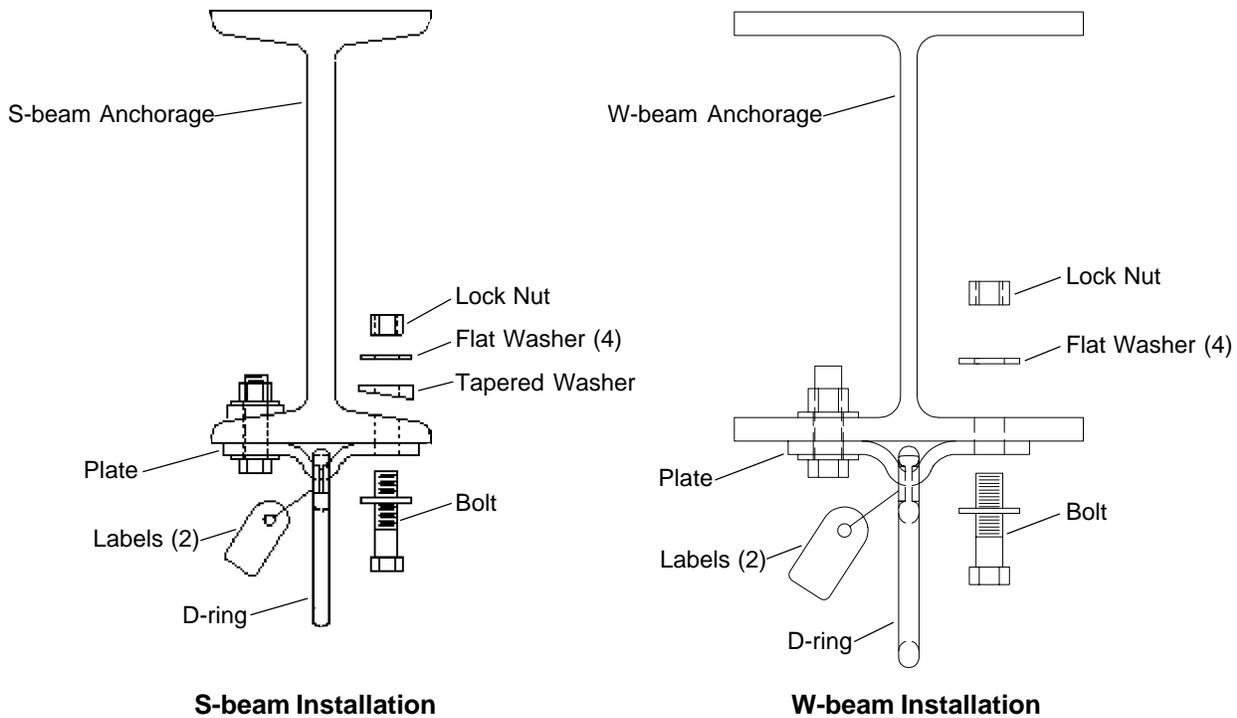
Step 1: Hold the mounting plate and D-ring in position and aligned to the pre-drilled in the beam or girder.

Step 2: Assemble a bolt up through the plate, flange, angle washer (when needed for S-beam installations), lock washer and nut. Hand tighten the nut onto the bolt. Repeat this process for the other bolt. Be sure there is a bolt, washers and nut for every hole in the mounting plate.

Step 3: Tighten each nut to 7 ft lb (9 N m) torque.

Step 4: Inspect the installation. Verify that all components are present and correctly mounted. The D-ring must move freely on the mounting plate.

INSTALLATION DIAGRAM



! CAUTION

Do not leave the D-Plate Anchorage Connector installed in environments which could cause damage or deterioration to the product. Refer to sections 9, 11 and 12 for care and inspection details. Do not leave unattended loads on the D-Plate Anchorage Connector.

8.3 MAKING CONNECTIONS: When using a snaphook or carabiner to connect to an anchorage or when coupling components of the system together, be certain accidental disengagement ("rollout") cannot occur. Rollout is possible when interference between a carabiner and the mating connector causes the carabiner's gate or keeper to accidentally open and release. Rollout occurs when a carabiner is snapped into an undersized ring such as an eye bolt or other non-compatibly shaped connector. Only self closing, self-locking snaphooks and carabiners should be used to reduce the possibility of rollout when making connections. Do not use snaphooks or connectors that will not completely close over the attachment object. Do not make knots in a lanyard. Do not hook a lanyard back onto itself. Snaphooks and carabiners must not be connected to each other. Do not attach two snaphooks or carabiners into one D-ring. Do not attach snaphooks or carabiners directly to a horizontal lifeline. Always follow the manufacturer's instructions supplied with each system component.

8.4 REMOVAL OF THE D-PLATE ANCHORAGE CONNECTOR: Before attempting removal of the D-Plate Anchorage Connector, disconnect all loads and attachment elements from the Anchorage Connector D-ring. Return the D-Plate Anchorage Connector to the appropriate person in the user's organization for cleaning, inspection and storage.

9.0 CARE, MAINTENANCE AND STORAGE

9.1 CLEANING INSTRUCTIONS: Clean the D-Plate Anchorage Connector with a solution of water and mild laundry detergent. Dry hardware with a clean cloth and hang to air dry. Do not speed dry with heat. Excessive accumulation of dirt, paint or other foreign matter may prevent proper function of the D-Plate Anchorage Connector. Questions concerning D-Plate Anchorage Connector conditions and cleaning should be directed to Rose Manufacturing Company.

9.2 MAINTENANCE AND SERVICE: Equipment which is damaged or in need of scheduled maintenance must be tagged as "UNUSABLE" and removed from service. Corrective maintenance (other than cleaning) and repair, such as replacement of elements, must be performed by Rose. Do not attempt repairs.

9.3 STORAGE: Store the D-Plate Anchorage Connector in a cool, dry and clean place out of direct sunlight. Avoid areas where heat, moisture, light, oil, and chemicals or their vapors or other degrading elements may be present. Equipment which is damaged or in need of scheduled maintenance should not be stored in the same area as usable equipment. Heavily soiled, wet, or otherwise contaminated equipment should be properly maintained (e.g. dried and cleaned) prior to storage. Prior to using equipment which has been stored for long periods of time, a Formal Inspection should be performed by a competent person.

10.0 MARKINGS AND LABELS

10.1 The following labels must be present, legible and securely attached to the D-Plate Anchorage Connector. The Formal Inspection Grid must be punched with a date (month/year) within the last six months. If not, remove the D-Plate Anchorage Connector from use and mark it as "UNUSABLE" until a Formal Inspection is performed in accordance with section 12. See section 4 for location of labels.

Rose Material: Model:
D-Plate™
Anchorage Connector
 Capacity: 310 lbs (140 kg) (includes person + clothes + tools).
 Free Fall Limit: 6 ft (1.8 m) OSHA, ANSI Z359.1; 5 ft (1.5 m) ANSI A10.14, CSA.
 When used as part of a personal fall arrest system, fall arresting forces must not exceed 1,800 lbf. (8kN).
 Meets: OSHA Requirements: ANSI Z359.1; ANSI A 10.14, Type 1.
 DATE MADE: 10/95
 SERIAL NUMBER: 000000
 0 00000 000000 0
 DO NOT REMOVE LABELS

DATA CARD

CAUTION
INSPECTION-Inspect for malfunction and missing, broken, distorted, loose, damaged, corroded, weakened, or worn parts. See separate instructions for inspection details. If product is defective or if 6 months pass without formal inspection, remove from use, Label "UNUSABLE" until reinspected, repaired or destroyed.
 ■ User must inspect before each use.
 ■ Separate competent person must formally inspect at least every 6 months.
 ■ Punch inspection grid if product passes formal inspection.

	J	F	M	A	M	J	J	A	S	O	N	D
98												
99												
00												
01												
02												

PUNCH GRID ON DATE OF FIRST USE

LEAF ONE

WARNING
 Read and heed all instructions, labels and warnings for this product and products intended for use with it. Failure to do so may result in serious injury or death. The Plate/D-ring Anchorage Connector is intended to couple a single personal fall arrest system to a suitable anchorage. Snaphooks & carabiners connected to this product must: (1) be locking type meeting ANSI Z359.1; (2) be compatible with D-ring to reduce rollout possibility, and; (3) be securely closed and locked when connected.
 P/N 622897

Rose Manufacturing Company
 2250 South Tejon Street
 Englewood, Colorado 80110-1000 USA
 Ph: 303-922-6246, FAX: 303-934-9960
 Toll Free: 800-722-1231

 Made in USA.

 P/N 622897

11.0 INSPECTION BEFORE EACH USE

- 11.1 INSPECTION FREQUENCY:** The D-Plate Anchorage Connector must be inspected by the user before each use and, additionally, by a competent person other than the user at intervals of no more than six months. The competent person inspection is referred to as Formal Inspection. See section 12 for Formal Inspection procedures.

CAUTION

If the D-Plate Anchorage Connector has been subjected to fall arrest or impact forces, it must be immediately removed from service and marked as "UNUSABLE" until destroyed.

11.2 INSPECTION STEPS

Step 1: Inspect the D-Plate Anchorage Connector labels to verify that they are present and legible. See section 4 for location of labels for each model. See section 10 for the specific labels that should be present and the information contained on those for the model number shown on page one (1) of these instructions. Check the Formal Inspection Grid to be sure a Formal Inspection has been performed within the last six months. If the Grid does not indicate that a Formal Inspection has been performed within the last six months (by being punched), or if any labels are missing or illegible, remove the D-Plate Anchorage Connector from use and mark it as "UNUSABLE" until a Formal Inspection is performed by a competent person.

Step 2: Inspect the D-ring, plate and user supplied fasteners (bolts, washers, angle washers, and nuts) for deformation, fractures, cracks, corrosion, deep pitting, sharp edges, cuts, deep nicks, and evidence of excessive heat or chemical exposures.

Step 3: Inspect the plastic labels for their presence and legibility.

Step 4: Inspect each component and subsystem of the complete system in accordance with the associated manufacturer's instructions. See section 6 for a description of the make-up of the different types of subsystems and systems.

- 11.3 CORRECTIVE ACTION:** When inspection in accordance with section 11.2 reveals signs of inadequate maintenance, the D-Plate Anchorage Connector must be immediately removed from service and marked as "UNUSABLE" until destroyed or subjected to corrective maintenance by the user's organization in accordance with section 9. Defects, damage, excessive wear, malfunction, and aging are generally not repairable. If detected, immediately remove the D-Plate Anchorage Connector from use and mark it as "UNUSABLE" until destroyed. For final disposition, submit the D-Plate Anchorage Connector to a competent person who is authorized to perform Formal Inspection. If there is any question as to reparability, contact Rose or a service center authorized in writing by Rose before further use of the product.

CAUTION

Only Rose Manufacturing Company or parties authorized in writing may make repairs to this equipment.

12.0 FORMAL INSPECTION

- 12.1 FORMAL INSPECTION FREQUENCY:** The D-Plate Anchorage Connector must be formally inspected by a competent person other than the user at intervals of no more than six months. (The qualifications of a competent person are established by OSHA.) If the product is exposed to severe working conditions, more frequent formal inspections may be required. The frequency of inspection by a competent person should be established by the user's organization based on such factors as the nature and severity of workplace conditions, modes of use, and exposure time of the equipment. The competent person should perform a methodical and thorough visual and tactile inspection by following the inspection procedure in section 12.3. The inspection results should be recorded in the Formal Inspection Log and retained for reference. In addition, if the D-Plate Anchorage Connector passes Formal Inspection, the competent person, using a ballpoint pen, should punch the date (month and year) of Formal Inspection on the grid supplied with the labels on each product. The user should never punch this grid; however, the user should check it before each use to be sure a Formal Inspection has been performed within the last six months.

- 12.2 CONTROL OF EQUIPMENT:** The user's organization should establish and enforce a policy and procedure whereby any D-Plate Anchorage Connector that is found to be defective, damaged, or in need of maintenance be immediately removed from use, marked as "UNUSABLE" and immediately thereafter submitted to custody of the competent person responsible for Formal Inspection. This has the benefits that: 1) defective equipment is secured from further use until proper action is taken;

2) uniform standards are applied for determining whether the equipment is acceptable or not acceptable for further use; 3) uniform methods of cleaning and other maintenance are applied; and 4) there is a central point for evaluation of conditions that may be recurring and require preventive measures such as coordination with the equipment manufacturer, selection of alternate equipment, additional training of equipment users, or changes to the workplace conditions.

12.3 FORMAL INSPECTION PROCEDURE: The Formal Inspection Procedure is similar to the user's inspection before each use described in section 11. However, it differs in three important respects, namely: 1) it is performed by a competent person other than the user who is trained and authorized to perform Formal Inspection for the user's organization; 2) it is more detailed and is methodically recorded on a Formal Inspection Log that is kept on file for future reference; and 3) it results in final disposition of the equipment as either "acceptable" or as "not acceptable" followed by destruction of the product.

There are three forms that are important to the Formal Inspection Procedure. They are the Formal Inspection Diagram ("DIAGRAM"), the Formal Inspection Log ("LOG"), and the Formal Inspection Checklist and Codes ("CHECKLIST"). These forms relate and refer to each other so it is necessary to understand their purposes and uses before discussing the inspection procedure.

12.3.1 DIAGRAM: This is a set of line drawings of the D-Plate Anchorage Connector. Each has numbered callouts of the parts. The numbers called out in the DIAGRAM correspond to those shown on the column titled "INSP. POINT" (inspection point) on the LOG.

12.3.2 LOG: This is the form to be used to record observations made during the Formal Inspection. The Model No., Serial No. and Date Made are recorded by the inspector from the label set. The formal inspector's name and the inspection date are entered by the inspector. The "Disposition" entry is the last entry made on this form after all observations have been recorded. The entry is either "Acceptable" ("PASS") or "Not Acceptable" ("FAIL"). The columns on the LOG are as follows:

INSP. POINT - Inspection point. The D-Plate Anchorage Connector part designated in the callouts on the DIAGRAM.

DESCRIPTION - Name of the D-Plate Anchorage Connector inspection point.

QTY/DP - Quantity per D-Plate Anchorage Connector. The quantity of each D-Plate Anchorage Connector inspection point that must be inspected.

COND. - Condition. The condition of the D-Plate Anchorage Connector part is indicated here by entry of the appropriate Condition Code shown on the CHECKLIST (e.g. M0, P2, etc.). Alternatively, the inspector may simply enter "FAIL" if a defective condition exists and make no entry if no defect exists.

OVERALL ASSESS. - Overall assessment. The inspector's evaluation of the overall acceptability or non-acceptability of the part category (e.g. webbing, stitching, metallic, plastic). The appropriate Overall Assessment Code defined on the CHECKLIST is entered here (e.g. MA, PN, etc.). Alternatively, the inspector may simply enter "FAIL" if a defective condition exists and make no entry if no defect exists.

COMMENTS - Indicate pertinent inspector observations here.

12.3.3 CHECKLIST AND CODES: This is a table which categorizes the different types of D-Plate Anchorage Connector parts. For each of these categories that are applicable to a specific product, the formal inspector checks the D-Plate Anchorage Connector parts for each of the associated conditions (e.g. deformation, corrosion, etc.). The codes for the detected conditions are entered in the Condition column on the LOG (e.g. M1, P0, etc.). Overall assessment codes are given, along with the criteria for assigning them, so the inspector can decide if the D-Plate Anchorage Connector is acceptable or not acceptable for further use (e.g. MA, MN, PA, PN). Alternatively, instead of using these codes, the inspector may simply enter "FAIL" if a defective condition exists and make no entry if no defect exists.

12.3.4 FORMAL INSPECTION PROCEDURAL STEPS:

Step 1: Record on the LOG the Model No., Serial No. and Date Made information shown on the product label set. Record the inspector's name and inspection date.

Step 2: Arrange the D-Plate Anchorage Connector so the parts to be inspected are readily visible.

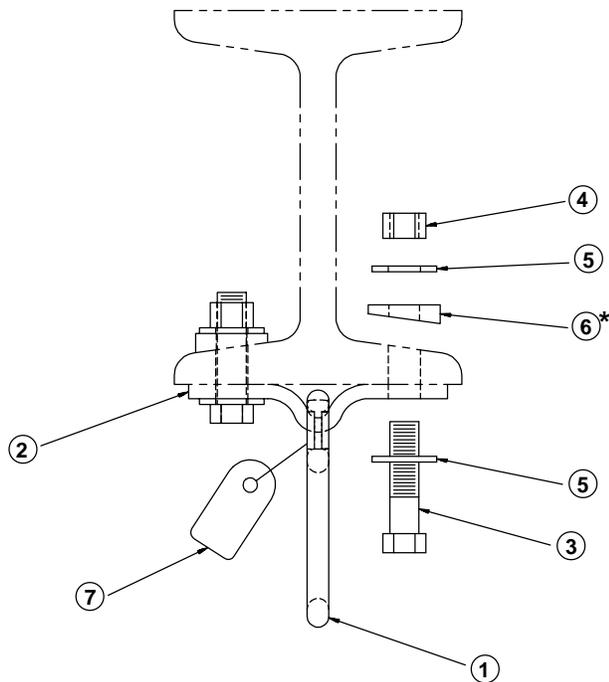
Step 3: Starting with the parts shown on the LOG, inspect each part (inspection point) one at a time. Refer to the DIAGRAM for identification of each inspection point. Each part must be inspected for the possible presence of the conditions shown on the CHECKLIST. Enter in the Condition column on the LOG the proper Condition Code (listed on the CHECKLIST) or "FAIL" if a defect exists. If there is any question whether the product condition has materially changed since the last Formal Inspection, retrieve and review the prior Formal Inspection records for the specific product.

- Step 4:** Determine whether the part (inspection point) is acceptable or not acceptable. If an inspection point has a defective condition, enter in the Overall Assessment column of the LOG the proper code taken from the CHECKLIST or simply "FAIL."
- Step 5:** Determine disposition of the D-Plate Anchorage Connector. If in step 4 it has been determined that the D-Plate Anchorage Connector is not acceptable, enter "N" or "FAIL" in the Disposition space on the LOG. In addition, a notation should be made in this space as to whether the D-Plate Anchorage Connector is to be destroyed, returned to manufacturer/distributor, etc.
- Step 6:** If in step 4 it has been determined that the D-Plate Anchorage Connector is acceptable for further use, enter "A" or "PASS" in the Disposition space on the LOG.

12.4 FORMAL INSPECTION CHECKLIST AND CODES

TYPE OF PART INSPECTED	CONDITION	COND. CODE	OVERALL ASSESSMENT CODE	LEGEND
Metallic	Deformed/fractured	M1	MA - (Metallic acceptable) MN - (Metallic not acceptable)	Disposition: A - (Acceptable) N - (Not acceptable) Enter "A" (or "PASS") or "N" (or "FAIL") in Disposition blank on Formal Inspection Log.
	Corroded/deep pits	M2		
	Missing/loose	M3		
	Heat exposure	M4		
	Chemical exposure	M5		
	Burrs/sharp edges	M6		
	Cuts/deep nicks	M7		
	Malfunction	M8		
	Other	M9		
	No visible change	M0		
Plastic	Cut/broken/deformed	P1	PA - (Plastic acceptable) PN - (Plastic not acceptable)	Criteria for disposition of "N" (Not acceptable): If there is one or more Overall Assessment Code of "N" type (e.g. WN, SN, MN, PN).
	Wear damage	P2		
	Missing/loose	P3		
	Burns/heat exposure	P4		
	Chemical exposure	P5		
	Other	P6		
	No visible change	P0		

12.5 FORMAL INSPECTION DIAGRAM



* NOTE: Used only in S-beam installations.

12.6 FORMAL INSPECTION LOG FOR ROSE D-PLATE ANCHORAGE CONNECTOR

Model No.: 506632 Inspector: J. W. Doe
 Serial No.: 012345 Inspection Date: 8/4/93
 Date Made: 2/93 Disposition: N - See item 1, Destroy D-Plate Anchorage Connector.

INSP. POINT	DESCRIPTION	QTY/ DP	COND. (a)	OVERALL ASSESS.(a)	COMMENTS
METALLIC PARTS					
1	D-ring	1	<i>M1</i>	<i>MN</i>	<i>D-ring is elongated, has experienced load</i>
2	Plate	1	<i>M0</i>	<i>MA</i>	
3	Bolt	2	<i>M0</i>	<i>MA</i>	
4	Nut	2	<i>M0</i>	<i>MA</i>	
5	Washer	4	<i>M0</i>	<i>MA</i>	
6	Tapered Washer	2	<i>M0</i>	<i>MA</i>	
PLASTIC PARTS					
7	Labels	2	<i>P0</i>	<i>PA</i>	

- (a) Optional simplified PASS/FAIL inspection format: Whenever an acceptable condition is found, the entry in the COND. and OVERALL ASSESS. columns may be left blank. Whenever a defective condition is found, enter "FAIL." The inspection may end upon detection of a single defective condition.
- (b) Blank copies of this LOG, with associated CHECKLIST and DIAGRAM, are available from Rose Manufacturing Company. Call Toll Free (800) 722-1231.

Step 7: File the LOG for future reference.

WARRANTY

Express Warranty – Rose/MSA warrants that the product furnished is free from mechanical defects or faulty workmanship for a period of one (1) year from first use or eighteen (18) months from date of shipment, whichever occurs first, provided it is maintained and used in accordance with Rose/MSA's instructions and/or recommendations. Replacement parts and repairs are warranted for ninety (90) days from the date of repair of the product or sale of the replacement part, whichever occurs first. Rose/MSA shall be released from all obligations under this warranty in the event repairs or modifications are made by persons other than its own authorized service personnel or if the warranty claim results from misuse of the product. No agent, employee or representative of Rose/MSA may bind Rose/MSA to any affirmation, representation or modification of the warranty concerning the goods sold under this contract. Rose/MSA makes no warranty concerning components or accessories not manufactured by Rose/MSA, but will pass on to the Purchaser all warranties of manufacturers of such components. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AND IS STRICTLY LIMITED TO THE TERMS HEREOF. ROSE/MSA SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. For additional information please contact the Customer Service Department at 1-800-MSA-2222 (1-800-672-2222).

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