

**PACIFIC
SUPPORT
EQUIPMENT**



**Ours is a World of
Quality, Integrity,
Commitment,
and Pride.**

INTRODUCTION TO THE COMPANY

Pacific Support Equipment Ltd. (PSE) established in 1987 specializes in the manufacture of high quality Aero Engine Tooling, Industrial Gas Turbine Tooling, and Aircraft Ground Support Equipment, including our own proprietary line of Aircraft Towbars.

We have an excellent reputation for supplying high quality products on time and at a competitive cost. We have the ability to design and manufacture to the customer needs as well as being able to modify or refurbish existing equipment. We stand behind all of our manufactured products and offer complete after sales service.

Quality is a priority for all of our products. Our quality assurance program ensures consistent, accurate production during all of our manufacturing operations. Our certified proof load testing facility guarantees reliability of all of our load lifting and handling tools.

PRODUCT CATEGORIES

Our Ground Support Equipment products fall into four main categories:

- | | | |
|----|---------------------------------|---------------------|
| 1. | Aircraft Towbars | Reference Section A |
| 2. | Aero Engine Maintenance Tooling | Reference Section B |
| 3. | Aircraft Hanger Equipment | Reference Section C |
| 4. | Special Purpose Tooling | Reference Section D |

CONTACT INFORMATION

Pacific Support Equipment Ltd.
#15 – 12491 No. 2 Road
Richmond, B.C.
Canada
V7E 2G3

Phone: (604) 275-9131

Fax: (604) 275-0548

Website: www.pacificsupportltd.com

Email: pseltd@pacificsupportltd.com

SECTION A

AIRCRAFT TOWBARS

PSE's proprietary "Narrow Body" and "Wide Body" towbars offer you a total commonality of all running gear and hydraulics as well as towhead interchangeability for handling the wide range of aircraft sharing today's airport ramps. All of our towbars are accompanied with an operations manual complete with spare parts lists, shearpin data, and maintenance procedures.

All of our towbars and towhead equipment comply with the current SAE Specifications for ground support equipment as follows:

- general requirements for aerospace G.S.E. ARP 1247B
- minimum safety requirements for special purpose G.S.E. AIR 1375
- aerospace recommended practice ARP 1915
- commercial aircraft towbar attach interface AS 1614
- Aircraft – Towbar attachment fittings interface ISO 8267-1

Towbar features include:

- four ply pneumatic, foam filled, or solid rubber tires on steel wheels for the Narrow & Wide Body towbars and 10" or 12" solid rubber tires on steel wheels for the Regional aircraft towbars
- Enerpac hydraulic assisted wheel extension and spring retraction mechanism (on narrow & wide body towbars; optional on regional towbars)
- shearpin fail indicator (wide body towbars only)
- shock absorbing tractor toweyes to minimize shock loads to the NLG.
- spare shearpin storage bracket adjacent to towhead

Towhead features include:

- replaceable shearpin bushings
- heavy duty overcentering latching handle mechanism (narrow & wide body towheads only)
- size calibrated and gauged aircraft locking jaws (narrow & wide body towheads only)
- durable corrosion resistant "all weather" zinc finish

The following illustrations of the towbar equipment refer to all of the part numbers required for ordering complete towbar assemblies as well as complete listings of spare or replacement parts.

SECTION A

REGIONAL AIRCRAFT TOWBARS



Illustration of a typical Regional Towbar equipped various towheads.

This “Lightweight” Aircraft Towbar has been designed to supplement our Commercial or Large Aircraft Towbars that are also available.

This Towbar has fewer working parts, no hydraulic assist wheel raising mechanism. It can be handled and attached to the aircraft by one person. The Towbar is lightweight and can be easily maneuvered around the ramp areas using the raised pickup handle. An extended wheel assembly is available for aircrafts with a high latch point. An optional manually adjustable wheel assembly is also available. (not shown in catalogue)

A selection of towheads can be inserted into this towbar and secured using only one fastener. This allows for the handling of different aircraft types at short notice with a minimum of delay. The toweye incorporates our standard PSE shock isolating system to protect nose landing gear from shock damage. A specifically rated shearpin is installed to further protect the aircraft should for any reason the max safe towloads be exceeded. Twin 10 or 12 inch wheels with solid tires are mounted on an adjustable bracket assembly to allow for precise adjustment of the towhead to the nose landing gear center line, thus allowing a single mechanic to engage the towhead to the nose landing gear towing attachment.

SECTION A

The following is a summary list of Pacific Support Equipment's Regional Aircraft Towbars and Towheads:

Towbar Assemblies

Listing: **Description**

PSE 300 Regional Aircraft Towbar Assembly
(For use with interchangeable heads as listed below.)

PSE 300F Fly-Away Regional Towbar Assembly



Towhead Assemblies

Listing: **Description**

PSE 301 Bombardier CL-65/RJ200 Towhead



PSE 302 MD-80 Towhead



SECTION A

PSE 303 Fokker 100 Towhead with Extendable Wheel Assembly

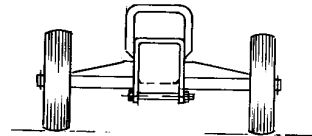
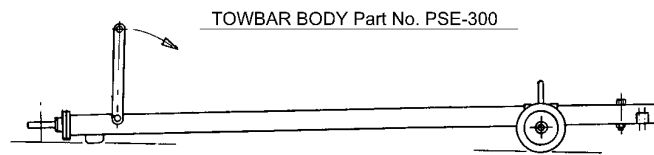


PSE 304 Dash 8 Towhead

PSE 305 Bombardier CRJ-705/900



SECTION A



REGIONAL AIRCRAFT TOWBAR CONFIGURATION

Statistics

Fully assembled length	149 in. (378 cm)
Length without towhead	126 in. (320 cm)
Fully assembled weight	196 lbs. (89 kg)

Optional Configurations

- 1) The regional towheads can be adapted to our hydraulically assisted Narrowbody towbar. This configuration allows for much easier raising of the towhead to higher latch points of certain aircraft's Nose Landing Gear.
- 2) There is also a manually adjustable wheel assembly (PSE-300-WMP) that is mountable on the regional towbar for the same purpose. (not shown in catalogue)

Fully assembled length	190 in. (483 cm)
Length without towhead	160 in. (406 cm)
Fully assembled weight	480 lbs. (218 kg)



SECTION A

Torque and Tow Limiting Shearpins

The Regional aircraft towbar utilizes a single precision-machined shearpin to limit the torque and towloads that can be imposed upon the aircraft landing gear. This shearpin is designed for easy, fast replacement. The following part numbers should be referenced when ordering replacement shearpins.

NOTE: A “spare” shearpin is shipped with each new towbar.

Shearpin Ordering Data (All Regional Aircraft Towheads Require 1 Shearpin)

<u>Part No.</u>	<u>Aircraft</u>	<u>Part No.</u>	<u>Aircraft</u>
PSE 301-5	CRJ-200/300	PSE 304-5-1	Dash-8-200/300
PSE 302-5	MD-80	PSE 304-5-2	Dash-8-400
PSE 303-5	Fokker 100	PSE 305-5	CRJ-705/900

Towbar features include:

- 10” or 12” Solid Rubber tires on steel wheels
- shock absorbing tractor toweyes to minimize shock to the NLG
- spare shearpin storage bracket adjacent to towhead

Towhead features include:

- replaceable shearpin bushings
- size calibrated and gauged aircraft locking jaws or pins
- durable corrosion resistant “all weather” zinc finish