

EPSILON INWARD GLIDER DOOR SYSTEM



COMMONLY FITTED FROM 2007 ON POPULAR VEHICLES:

Optare METROCITY, SOLO SE SF FF, TEMPO, VERSA

ROUTINE MAINTENANCE GUIDELINES

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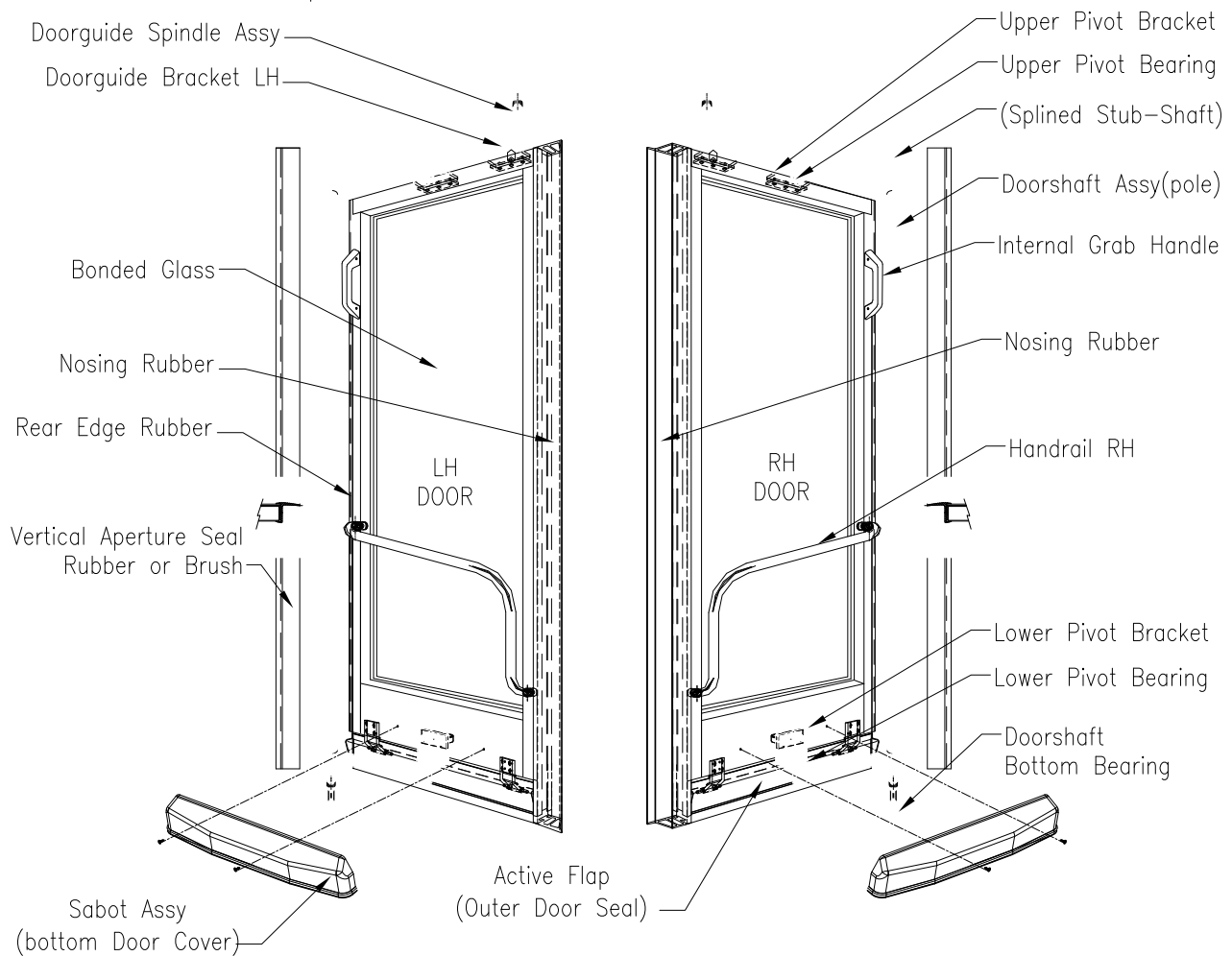
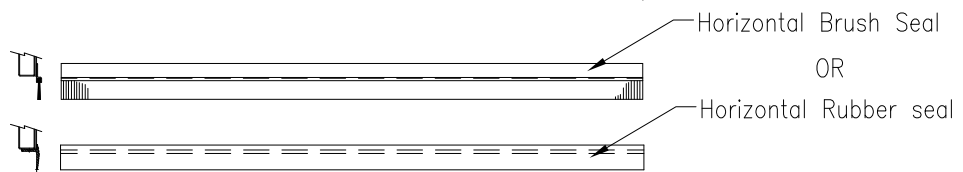
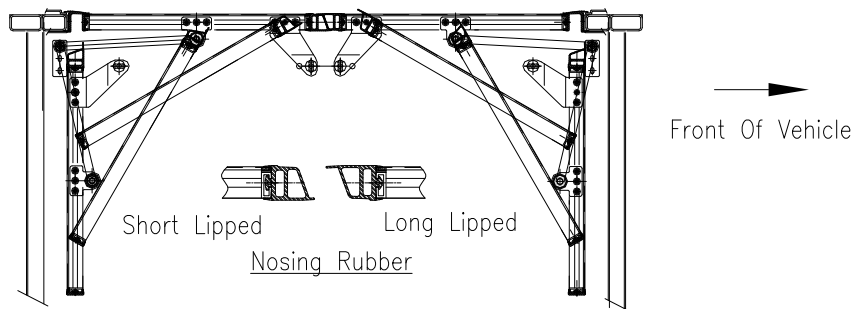
INTRODUCTION

EPSILON INWARD GLIDING DOORS SYSTEM

Transport Door Solutions door system is a most durable system. By drawing on technology gained worldwide on both bus and rail, Transport Door Solutions have created doors for the P.S.V. market that are tough, reliable, maintainable, easy to install. The doors utilise specially designed aluminium extrusions, which make them more resistant to damage and vandalism. The basic overall design allows easy installation and adjustment which means lower installation and maintenance costs. Control systems include: Pneumatic, Electro-Pneumatic or Electric.

- Configuration:** Single or Double Door Systems
- Movement:** Doors will glide inboard of aperture, either finishing inside or protrude outside of vehicle.
- Applications:** For entrance (front) & Exit (mid) for embark or disembark on off side or nearside of vehicle.
- Control Options:** Pneumatic, Electric or Manual means of operation.
- Material & Finish:** Aluminium extrusion construction & powder coated.

Typical Double Glider Doors Movement Layout



Door Viewed from Inside vehicle

ROUTINE MAINTENANCE GUIDELINES FOR PNEUMATIC GLIDER DOOR SYSTEMS

The following is the recommended minimum routine maintenance required for power operated door systems. It is important that any components found to be damaged or defective are replaced as soon as practically possible. Failure to do so could result in further damage to other components.

1.0 Daily Checks.

- 1.1 Check that the movement of all door leaves & active flaps are all running smoothly and free and should be within the operating speed/cushioning guide lines.
For Opening fully in 2.0 to 3.0 seconds & Closing fully in 2.5 to 3.5 seconds.
- 1.2 While operating the doors visually inspect for any signs of wear & damage.
- 1.3 Check for loose door handrails & grab handles. If found to be loose must be corrected
- 1.4 Check for loose door leaves in the fully close and open positions a good holding force (min 150N to 200N)
- 1.5 Check Sensitive Edge or Sensadoor operation on all door leaves (if fitted).
- 1.6 Check Functionality of all push buttons/dump valves and emergency opening handle (if fitted).

1.7 Cleaning Guidelines.

- 1.7.1 It is recommended exterior door surfaces are washed regularly to remove dirt and other impurities, please **DO NOT** use high pressure washers.
- 1.7.2 Use low pressure wash system, either manually by hand/hose or as provided by typical bus wash machines.
- 1.7.3 Soft brushes must be used for a gentle cleaning process.
- 1.7.4 Warm mild soapy water or similar gentle cleaning solution to be used. **DO NOT** use aggressive cleaning chemicals, as this can cause rubbers to stick together.
- 1.7.5 Particular care to be taken where horizontal brush seals are fitted.

2.0 Six Monthly Initial Inspection.

- 2.1 Repeat Daily Check +as above.
- 2.2 Check filter regulator output pressure. Nominal 6.0bar to 6.5bar (87-95psi)
- 2.2 Check filter regulator for contamination from vehicle air supply. Drain the bowl if any water is present, replace or clean (with warm soapy water only) the filter element as appropriate if dirty or replace complete filter/reg assy
- 2.4 Inspect the pneumatic system for leaks, ensure all pipes & connectors, fittings are free of damage and are all fully pushed home into the fittings/connectors .
- 2.5 Operate the doors to check door alignment in the fully CLOSE positions against aperture seals and doors in the fully OPEN in a firm position, under pressure. Adjust cylinder / actuator drive linkage if required. (Doorstops, if fitted, are correctly adjusted to stop doors when in the fully open position).
Note when in the open or close position NO distortion (excessive load) should occur to the Door guide Spindle
- 2.6 Inspect condition of the door guide roller & spindle assembly, replace if worn or damaged. Also check the running clearance approx. 2.0mm-3.0mm top of guide roller to the guide channel on the underside of shelfplate also should be dry and free from grease.
- 2.7 Check doorframes for paint cracks and chips. Repair damaged areas with appropriate powder coat compatible paint.

3.0 Six Monthly Manual Inspection.



SAFETY NOTE: Before any initial checks are undertaken, release all the air from the door system via the filter regulator located near the shelfplate or dump valve

- 3.1 Before commencing any inspection check internal area of shelfplate system for dirt, oil & dust. Clean as necessary to be removed. (Note: Do not use aggressive cleaning chemicals.)
- 3.2 Inspect all mechanical linkages for wear . tear also movement to be free & smooth : door pivot bearings, cylinder rod ends, active flap springs/bearings
- 3.3 Check the condition of the shelfplate drive linkage rod end bearings. Replace if more than 0.5mm free play.
- 3.4 Inspect all electrical cables/plugs have a good connections and are free from damaged.
- 3.5 Note. Because the open & close reed switches are magnetic sensors. Always keep them free from ferrous dust as this can distort or impede the signal therefore giving false readings. Check that reed switches are secure.
- 3.6 Check tightness of all bolted screws. Tighten if loose.

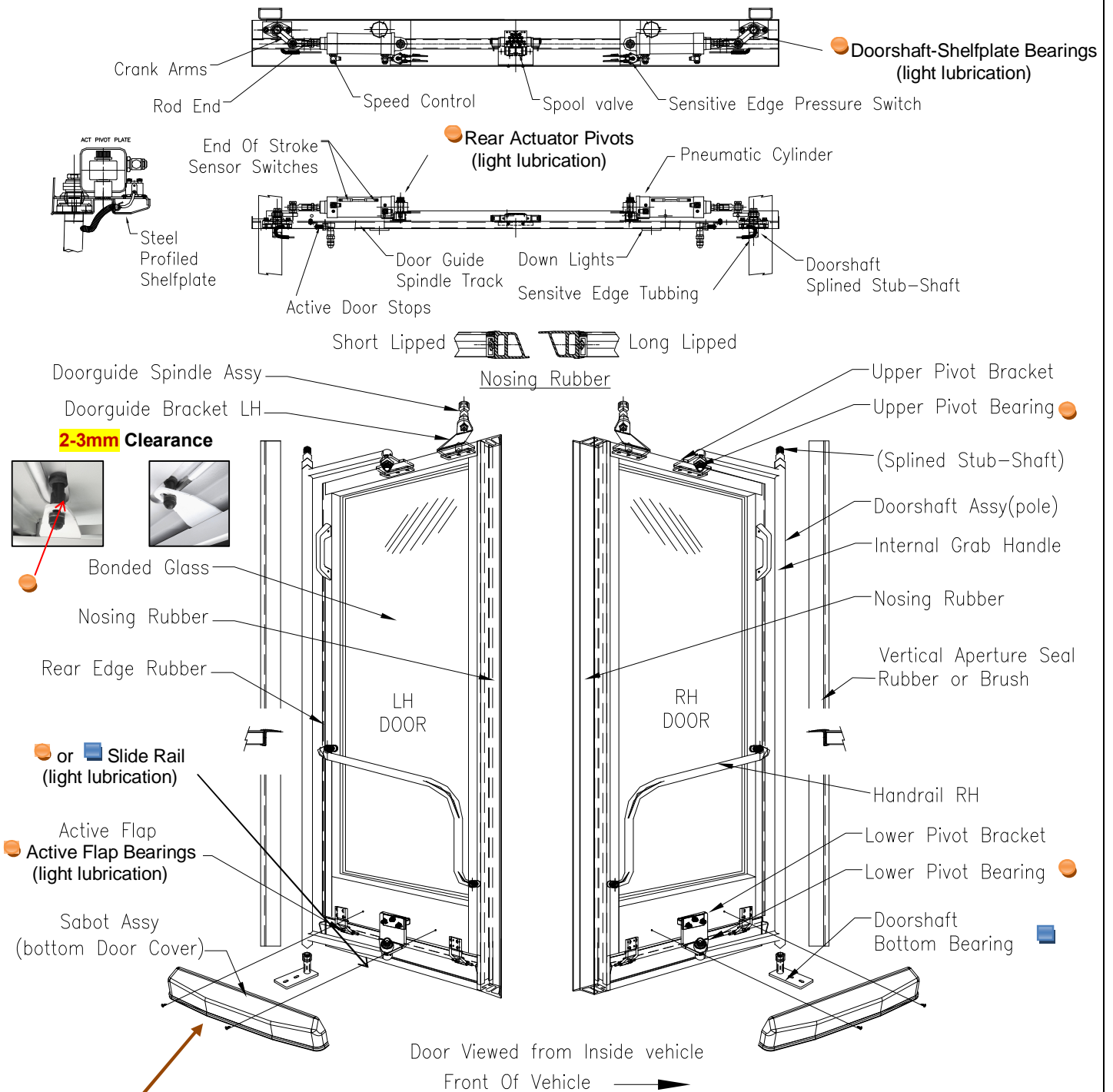
3.7 Inspection of Doorshafts (pillar tubes).

- 3.7.1 Check condition of doorshafts top spherical flange bearing mounted on shelfplate, Replace if more than 0.5mm free play and ensure pillar tube shaft rotates with self-aligning bearing. M8 fixing screw are tight also M12 retaining bolt is secure to eliminate upward movement of doorshaft.
- 3.7.2 Check condition of doorshafts bottom bearing. Replace if more than 2mm horizontal movement
- 3.7.3 Check condition of doorshafts upper and lower arms bearings on the end of arms. Replace if more than 0.5mm
- 3.7.4 Check tightness of all bolted-screws. Tighten if loose

4.0 Six Monthly Lubrication as required

-  = Denotes **Grease** Lubrication. Use Corrosion Block high performance (Blue in colour) long-lasting, non-drying, excellent salt water resistance, (Alternatives: K2EP (Red) Morris long life grease)
 -  = Denotes **Spray** Lubrication. Use AC90 spray, TF2 (with Teflon surface protection) spray or GT85 spray.
- Do not get any lubricates on any surface where you might stand or tread.**

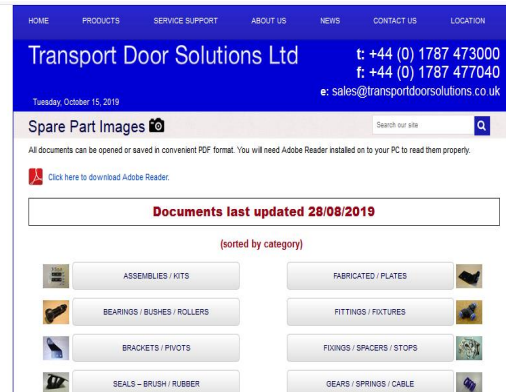
* Do Not Use WD40 Original for lubrication only use as cleaning agent





Inner Sabot Cover: To remove cover pop out plastic screw caps, Then using PZ2 bit screw driver, slacken off screws, then pull up cover vertically to remove

FOR SPARES OR REPLACEMENT PARTS

See TDS website for latest spare part image sheets > www.transportdoorsolutions.co.uk/spare-parts-images
Sorted by product category and door system location: sheflplate or door leaf kit



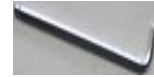
Recommended Lubricants

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TYPICAL TOOL REQUIREMENTS



SPANNERS	ALLEN KEYS
Open & Closed Ended size in mm	Hex & Ball Nose Ends size in mm
24, 23, 22, 19, 17, 16, 15, 14, 13,12, 10, 8, 7, 4, A/F	1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0, 12. A/F
Adjustable Spanner	Tee Bar Type
Up To 25mm Opening S-M-L	3.0, 4.0, 5.0, 6.0, 8.0. A/F
Sockets	
24, 23, 22, 19, 17, 16,13,12, 10, 8, 7, 4, A/F	



“SCREW DRIVERS BITS”	MISCELLANEOUS
4mm Flat Blade Screwdrivers (S-M-L)	Internal & External Circlip Pliers
No.PZ2 Pozzi-Drive Screwdriver	Pliers flat & tapered ends
No.PZ2 Pozzi-Drive Bit	Stanley Knife
No.PZ3 Pozzi-Drive Bit	Scissors
	Hammer small Combination type



BOLT / SCREW TIGHTENING TORQUE	
M6	12 Nm
M8	25 Nm
M10	52 Nm
M12	94 Nm
M16	90 Nm
M20	150 Nm

NUT TIGHTENING TORQUE	
M6	7 Nm
M8	17 Nm
M10	36 Nm
M12	55 Nm
M14	80 Nm
M16	120 Nm