

SCREEN WIPERS LTD

WINDSCREEN WIPER CATALOGUE

MARINE
BUS / COACH
INDUSTRIAL
RAIL

Call us now
it can never be too soon
to see where you're going



Comprehensive range of windscreen wiper solutions

www.sws.co.nz

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Screen Wipers Ltd are confident you will find all the data needed for most applications, but should you require more, please contact us, we will welcome the opportunity to assist you further.

HEPWORTH / DUDLEYS / WYNN

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Meeting the challenges of rapidly developing technology alongside the stringent demands of the modern rail industry, Hepworth Rail have a reputation synonymous with quality and reliability.

The wiper system is designed for each customer's specific requirements to give maximum swept area, utilising the best combination of components from the following ranges;

...range selection

*Alstom Transport
London Underground
Jubilee and Northern Line*

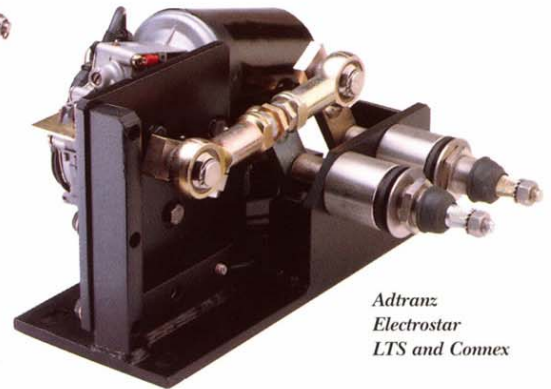
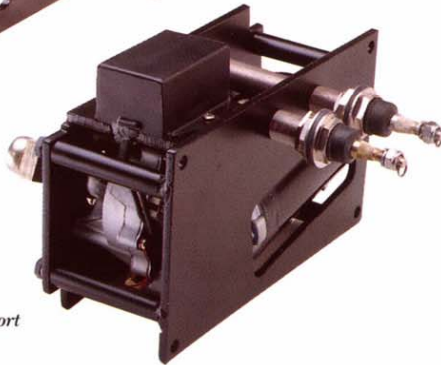


- Linkage systems
- Suppressed systems
- Custom built systems

- Motors
- Arms
- Blades
- Wash equipment



*CAF
Hong Kong
Lantau Airport*



*Adtranz
Electrostar
LTS and Connex*

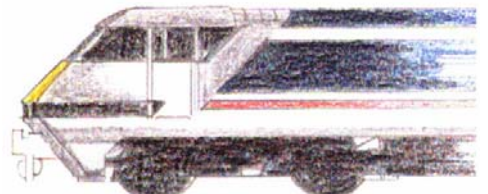
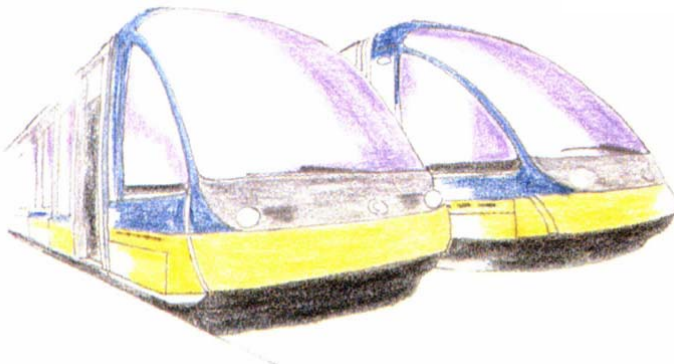
...design & application service

for rail vehicle builders and maintainers

Hepworthrail provide a design facility to builders of new rolling stock as well as refurbishment of existing vehicles, where replacement of existing pneumatic or existing electric systems is required, for the following types of vehicles

- High Speed Trains
- Locomotives
- Electric Multiple Units

- Diesel Multiple Units
- Metros
- Trams



HEPWORTH 2Nm LIGHT DUTY WIPER MOTOR

Marine



The 2Nm is a compact light unit, aimed at the small boat market, where efficient clearing of windows is essential



Pantograph

This unit is supplied as a fixed arc unit which is adjustable after the motor is installed. A single speed motor, 12 and 24 volt DC, it has a self parking facility which can be operated by a toggle switch. Construction is of 316 stainless steel.



Pendulum

Pantograph and pendulum arm with blades up to 20 ins. (510mm) are available.



Wiper Arms and Blades

Pantograph Arms

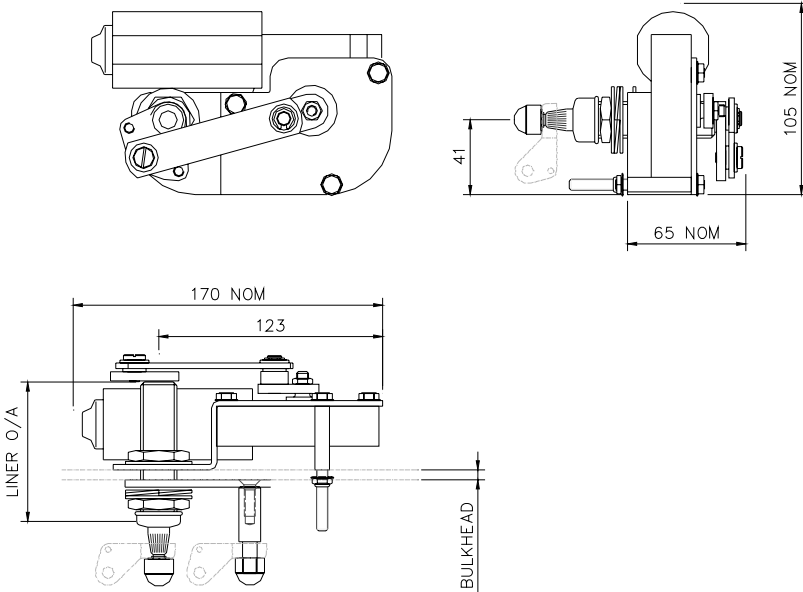
P5 Light Duty
Lengths 12" to 20" (310mm to 510mm)
Blade Clip 14mm

Pendulum Arms

F6 Light Duty
Lengths 12" to 20" (310mm to 510mm)
Blade Clip 14mm

Blades

B140 Curved Blade
Lengths 12" to 20" (300mm to 500mm)
Blade Clip 14mm



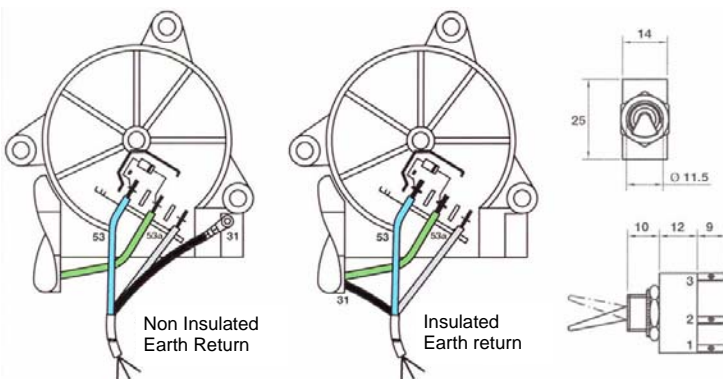
Specifications

Unit type	2Nm
Voltage	12 & 24
Standard Details	1 Speed, Self Parking
Angles of Arc	Variable at stated angles
Pantograph Units	40, 55, 65, 75, 90
Pendulum Units	40, 55, 65, 75, 90, 105
Spindle Centres	Between drive & idler 50mm
Drive Liner	M20 SS Liner / 12mm Spindle
Liner Length O/A	Bulkhead thickness + 70mm, + 75mm for pantograph 75, 80, 100, 110, 125mm
Idler Liner	SS spacer / 10mm SS spindle
Unit Weight	At maximum arm & blade Lengths; 1.4Kgs (3.0lbs)
Optional	Insulated Earth Return
Optional Motor Cover	Fibreglass, See page 20

Voltage	Starting Current	Running Current
12v DC	2.5 amps	1.5 amps
24v DC	1.1 amps	0.6 amps

Wiring the motor to a 1 pole / 2 Throw Switch

Motor		Switch
31	Black wire	Position 1 and negative ships supply
53	Blue wire (single speed)	Position 2
53a	Grey wire	Position 3 and Positive ships supply



HEPWORTH

20Nm MEDIUM DUTY WIPER MOTOR

Marine



The 20Nm is a compact unit, aimed at the small boat market, where efficient clearing of windows is essential



Pantograph

This unit is supplied as a variable arc model, for 12 & 24 volt DC. The standard motor has two speeds and self parking facility which can be operated by a rotary switch, toggle switch or a multi function control switch. Insulated earth return and EMC filter are standard.



Pendulum

Pantograph and pendulum arms with blades up to 24 ins. (610mm)



Wiper Arms and Blades

Pantograph Arms

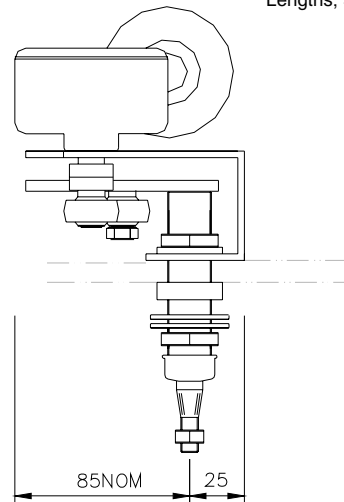
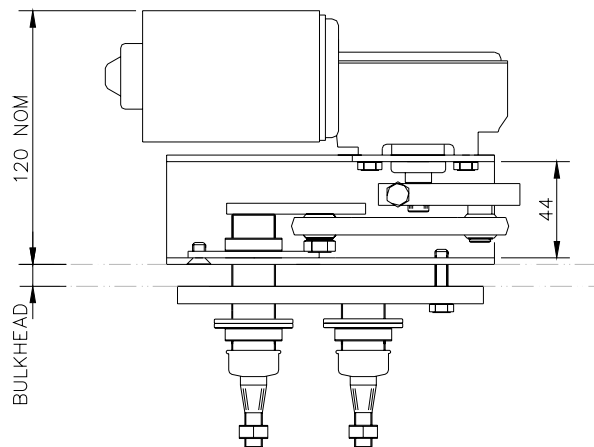
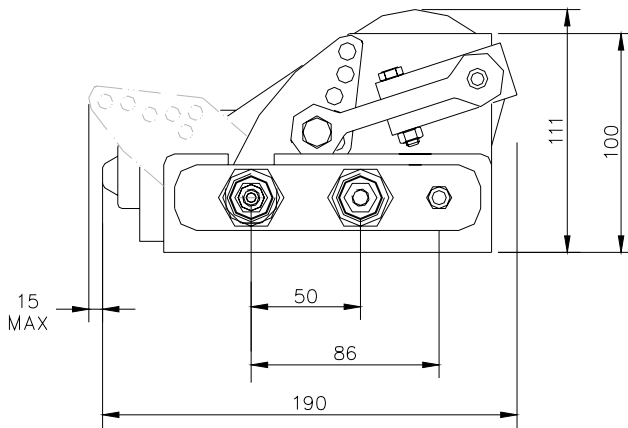
P613 Medium Duty
 Lengths 12" to 24" (310mm to 610mm)
 Blade Clip 14mm

Pendulum Arms

F63 Medium Duty
 Lengths 12" to 28" (310mm to 710mm)
 Blade Clip 14mm

Blades

B140 Curved Blade
 Lengths 12" to 24" (300mm to 600mm)
 Blade Clip 14mm



Specifications

Unit type	20Nm
Voltage	12 & 24
Standard Details	2 Speed, Self parking, Insulated Earth Return
Angles of Arc	Variable at stated angles
Pantograph Units	45, 50, 60, 70, 80, 90
Pendulum Units	45, 50, 60, 70, 80, 90
Spindle Centres	Between drive & idler 50mm
Drive liner	M20 SS Liner / 12mm Spindle
Liner Length O/A	Bulkhead thickness + 40mm, + 48mm for pantograph 70, 100mm
Idler liner	M20 SS Liner / 12mm Spindle
Unit Weight	At maximum arm & blade Lengths; 3.5Kgs (7.7lbs)

HEPWORTH 30Nm MEDIUM DUTY WIPER MOTOR

Marine



The 30Nm is a compact medium duty unit, aimed at the small boat market, where efficient clearing of windows is essential.



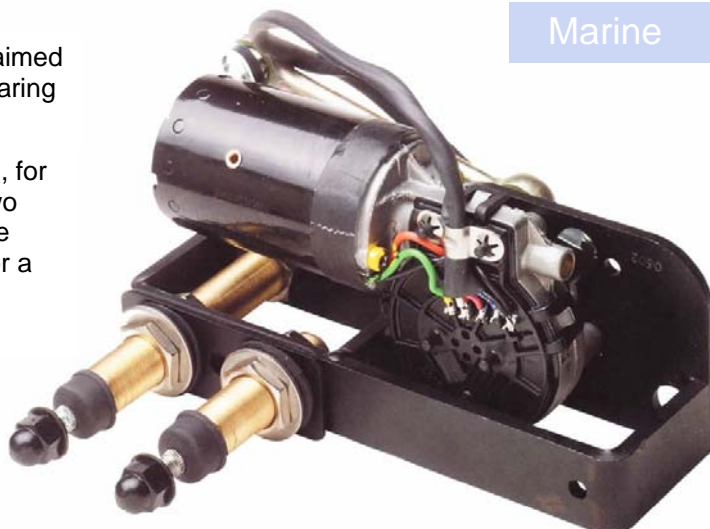
Pantograph

This unit is supplied as a variable arc model, for 12 & 24 volt DC. The standard motor has two speeds and self parking facility which can be Operated by a rotary switch, toggle switch or a multi speed function switch. Insulated earth return and EMC filter are standard.



Pendulum

Pantograph and pendulum arms up to 28 ins. (710mm) with blades up to 24 ins. (600mm)



Wiper Arms and Blades

Pantograph Arms

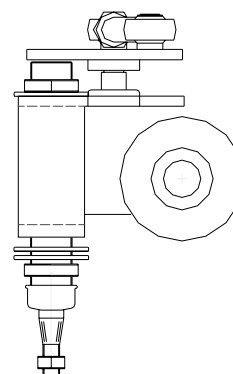
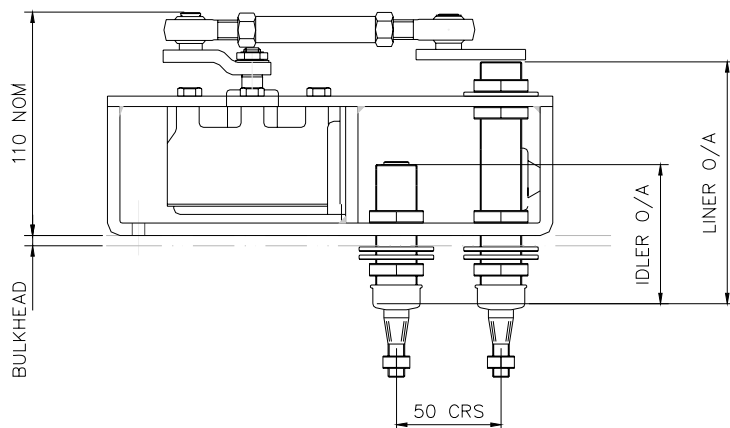
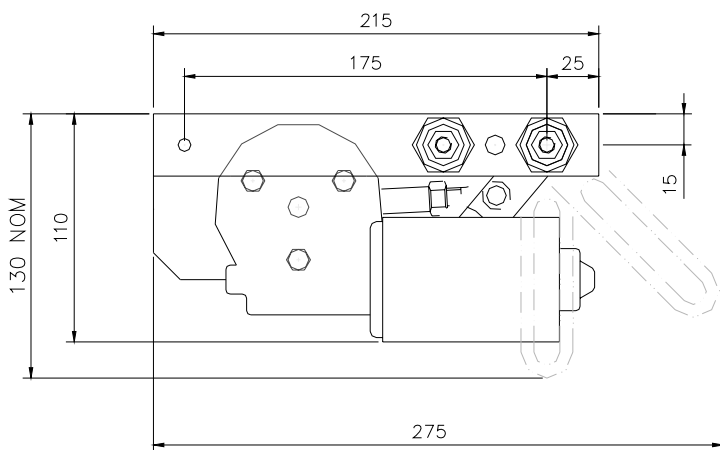
P613 Medium Duty
Lengths 12" to 28" (310mm to 710mm)
Blade Clip 14mm

Pendulum Arms

F63 Medium Duty
Lengths 12" to 28" (310mm to 710mm)
Blade Clip 14mm

Blades

B140 Curved Blade
Lengths 12" to 24" (300mm to 600mm)
Blade Clip 14mm



Specifications

Unit type	30Nm
Voltage	12 & 24
Standard Details	2 Speed, Self parking, Insulated Earth Return
Angles of Arc	Variable at stated angles
Pantograph Units	35 to 90 degrees
Pendulum Units	35 to 120 degrees
Spindle Centres	Between drive & idler 50mm
Drive liner	M20 Liner / 12mm Spindle
Liner Length O/A	Bulkhead thickness + 100mm 110, 135, 160, 200mm Brass 110mm Stainless Steel Longer available on special order
Idler liner	M20 Liner / 12mm Spindle
Unit Weight	At maximum arm & blade Lengths 4Kgs (8.8lbs)
Optional Motor Cover	Fibreglass, See page 20

50Nm HEAVY DUTY WIPER MOTOR

Marine



For its size the 50Nm is a very powerful unit, adaptable for high speed vessels, workboats and leisure craft, where compact design and outstanding performance are paramount.



Pantograph

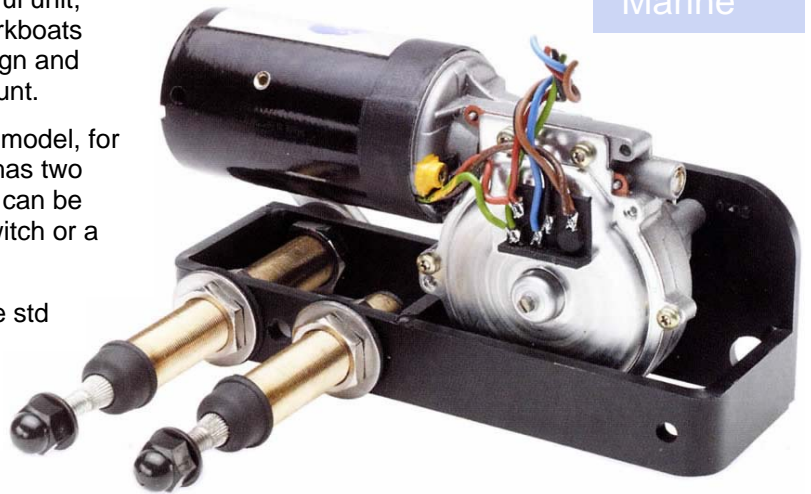
This unit is supplied as a variable arc model, for 12 & 24 volt DC. The standard motor has two speeds and self parking facility which can be operated by a rotary switch, toggle switch or a multi speed / function control switch.



Pendulum

Insulated earth return & EMC filter are std

Pantograph and pendulum arms up to 39 ins. (1000mm) and blades up to 32 ins. (800mm)



Wiper Arms and Blades

Pantograph Arms

P615 Medium Duty
Lengths 12" to 34" (310mm to 860mm)
Blade Clip 14mm

P620 Medium Duty
Lengths 12" to 34" (310mm to 860mm)
Blade Clip 20mm

Pendulum Arms

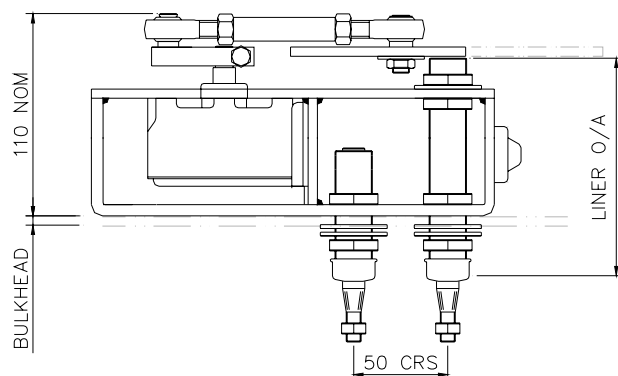
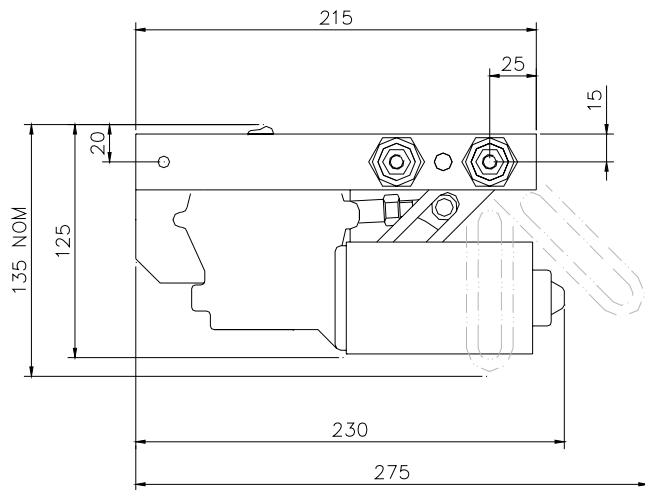
F63 Medium Duty
Lengths 12" to 34" (310mm to 860mm)
Blade Clip 14mm

F63 Medium Duty
Lengths 12" to 34" (310mm to 860mm)
Blade Clip 20mm

Blades

B140 Curved Blade
Lengths 12" to 28" (300mm to 700mm)
Blade Clip 14mm

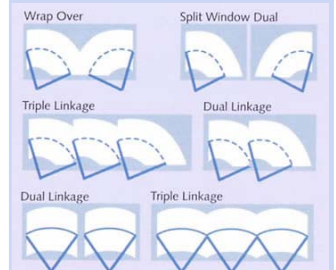
B140 Curved Blade
Lengths 32" (800mm)
Blade Clip 20mm



Specifications

Unit type	50Nm
Voltage	12 & 24
Standard Details	2 Speed, Self parking, Insulated Earth Return
Angles of Arc	Variable at stated angles
Pantograph Units	35 to 90 degrees
Pendulum Units	35 to 120 degrees
Spindle Centres	Between drive & idler 50mm
Drive liner	M20 Liner / 12mm Spindle
Liner Length O/A	Bulkhead thickness + 100mm 110, 135, 160, 200mm Brass 110mm stainless Steel Longer available on special order
Idler liner	M20 Liner / 12mm Spindle
Unit Weight	At maximum arm & blade Lengths; 4Kgs (8.8lbs)

When very wide or multiple windows are to be swept, we offer a comprehensive range of solutions utilising the 50Nm drive unit operating either two or three arms and blades off one motor.



HEPWORTH 80Nm HEAVY DUTY WIPER MOTOR



Pantograph



Pendulum

With the ever increasing need for speed and the 24 hour day operation of today's shipping the 80Nm model gives outstanding performance. To ensure a good swept window albeit travelling at 60 knots, the wiper arm design needed to ensure a good blade contact has necessitated the development of the extra heavy duty model

Supplied as fixed and variable arc models and available for 24 volt DC, the std motor has two speeds and self parking facility which can be operated by a rotary switch, toggle switch or a multi speed / function control switch. Insulated earth is standard.

Marine



Where a higher onboard voltage is used, we offer a number of solutions which will utilise this extremely reliable wiper. Pantograph and pendulum arms up to 60 ins. (1525mm) & blades up to 39 ins. (1000mm)

Wiper Arms and Blades

Pantograph Arms

P84 Heavy Duty
Lengths 24" to 60" (610mm to 1525mm)
Blade Clip 14mm

P84 Heavy Duty
Lengths 24" to 60" (610mm to 1525mm)
Blade Clip 20mm

Pendulum Arms

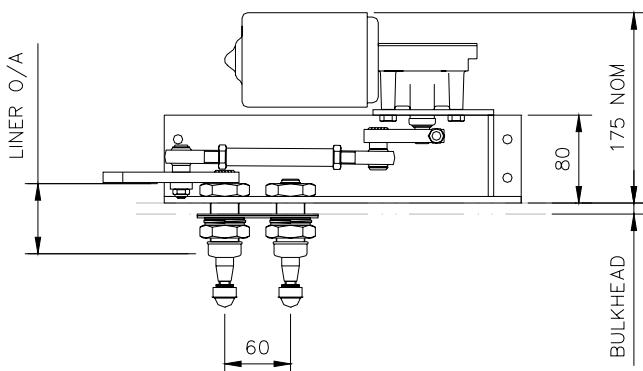
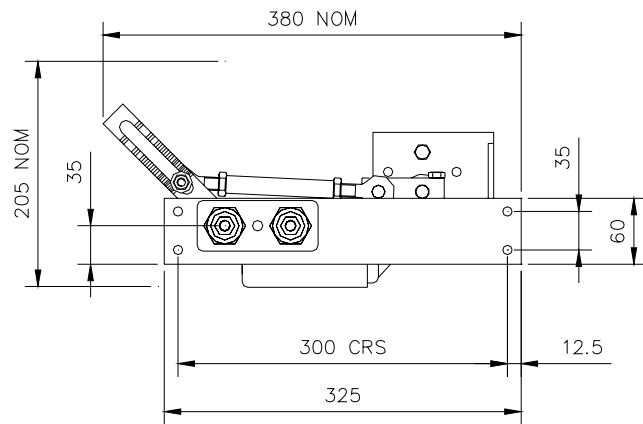
F80 Heavy Duty
Lengths 24" to 60" (610mm to 1525mm)
Blade Clip 14mm

F81 Heavy Duty
Lengths 24" to 60" (610mm to 1525mm)
Blade Clip 20mm

Blades

B140 Curved Blade
Lengths 12" to 28" (300mm to 700mm)
Blade Clip 14mm

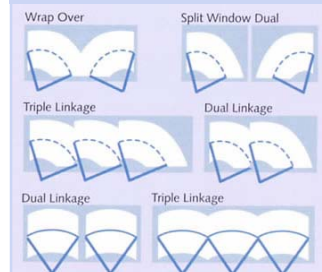
B140 Curved Blade
Lengths 32" (800mm) 36" (900mm) 39" (1000mm)
Blade Clip 20mm



Specifications

Standard Details	2 Speed, Self parking, Insulated Earth Return
Angles of Arc	Variable at stated angles (in 5 degree increments only)
Pantograph Units	40 to 90 degrees
Pendulum Units	40 to 115 degrees
Spindle Centres	Between drive & idler 60mm
Drive Liner	M26 Liner / 16mm Spindle
Liner Length O/A	Bulkhead thickness + 40mm 55, 85, 110mm Longer and SS available on special order
Idler Liner	M26 Liner / 16mm Spindle
Unit Weight	At maximum arm & blade Lengths; 8Kgs (17.6lbs)

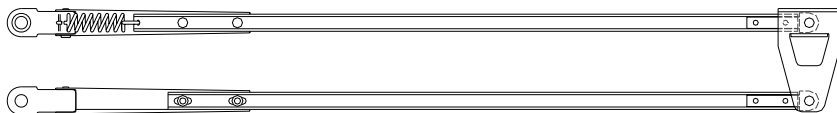
When very wide or multiple windows are to be swept, we offer a comprehensive range of solutions utilising the 80Nm drive unit operating either two or three arms and blades off one motor.



HEPWORTH PANTOGRAPH ARMS

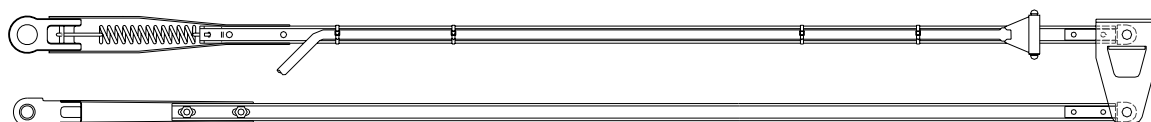
Marine

See page 48 for Bosch blades

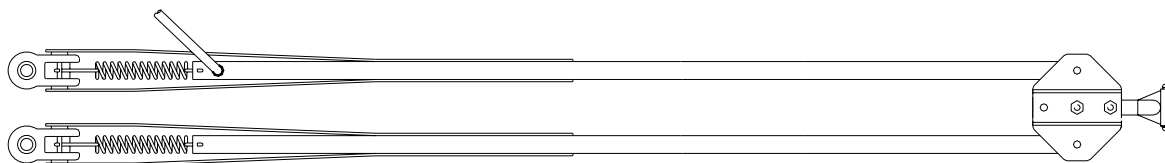


Use with
65201700
Pantograph Plate

Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P5-	300, to 510	12 DIN	10 DIN	50	14



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P612- TJ	300 to 700	12 DIN	Thread	50	14
P613- TJ	300 to 710	12 DIN	10 DIN	50	14
P611- TJ	300 to 710	12 DIN	10 DIN	60	14

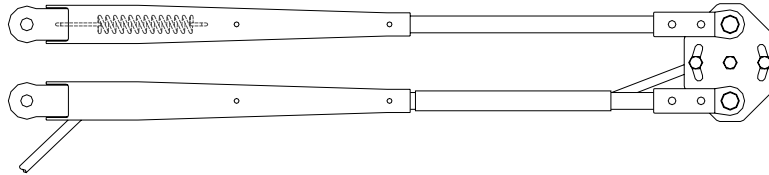


Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P615- TJ	610 to 990	12 DIN	12 DIN	50	14
P655- TJ	610 to 990	12 DIN	12 DIN	60	14
P620- TJ	610 to 990	12 DIN	12 DIN	50	20
P635- TJ	610 to 990	12 DIN	12 DIN	60	20
P680- TJ	610 to 990	16 DIN	16 DIN	60	20

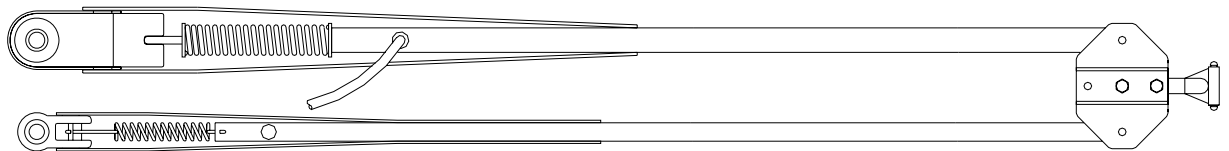
HEPWORTH PANTOGRAPH ARMS

Marine

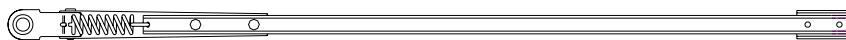
See page 48 for Bosch blades



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P614- TJ	340 to 560	12 DIN	12 DIN	50	14



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P84- TJ	610 to 1830	16 DIN	16 DIN	60	20

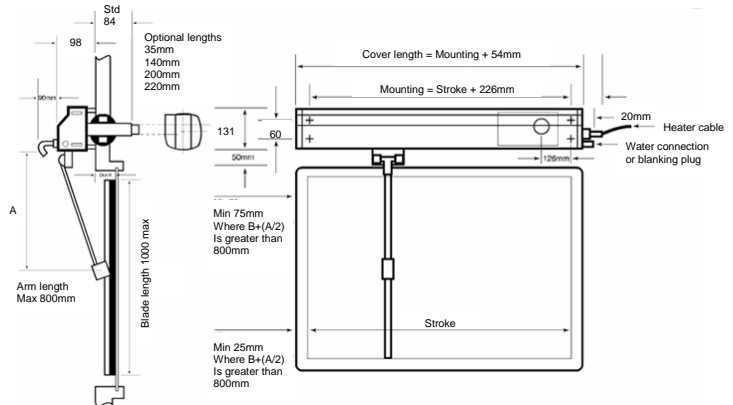


Arm	Length	Head	Blade Clip
F6-	300, to 485	12 DIN	14

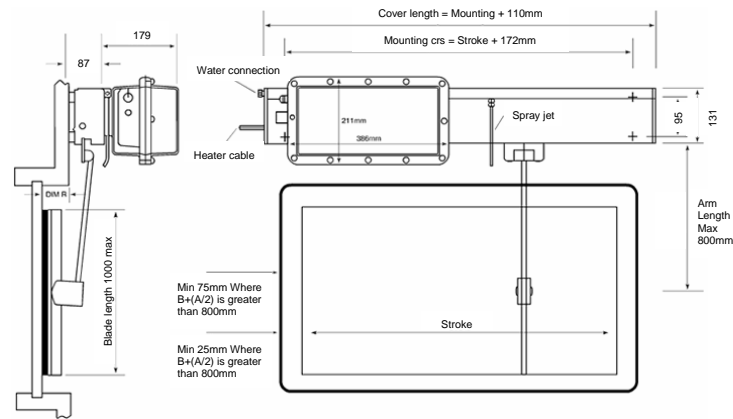


Arm	Length	Head	Blade Clip
F63-	350, to 685	12 DIN	14

WYNN STRAIGHT LINE WIPERS



Type C



Type D

The Type C is a Heavy Duty internally mounted motor Straight line wiper. The drive shaft is taken through the ships bulkhead and the motor attached with a single bolt clam easy installation.

The Type D is a Heavy Duty externally mounted motor Straight line wiper. The motor is mounted outboard and is only necessary to bring the cables through the bulkhead. The motor housing is fully sealed to I standards.

they offer the most advanced design of linear action window wiping for marine and other specialist applications.

By correctly matching the stroke and blade lengths, up to 80% of the window can be wiped. Fast wiping speed can provide maximum view from the ships bridge.

High powered AC induction motors provide an efficient reliable operation, quiet running and no maintenance.

Incorporating the highest quality Stainless steel and other non corrosive materials throughout.

Control features can include 2 speed Operation, parking, intermittent, heater, master control and wash/air purge.

Specifications		
Type C		
Single		Twin
Stroke	Min 305mm, Max 2260mm	Min 565mm, Max 4495mm
Blade	Max 1000mm	Max 500mm
Arm	Max 800mm	Max 800mm
Type D		
Single		Twin
Stroke	Min 305mm, Max 2260mm	Min 565mm, Max 4495mm
Blade	Max 1000mm	Max 800mm
Arm	Max 800mm	Max 800mm
Type C & D		
Wipe Speed	1.4 m per second / 0.7 m per second	
AC Motor	Induction type : 100, 115, 230 volt	
DC Motor	Permanent magnet type : 24 volt	
3 - PH Motor	Fast speed / slow speed / intermittent	
1 - PH and DC	Fast Speed / intermittent	
De-icing heater	200 watts per metre	
Park sensor	Magnetic read switch	
Spray nozzles	1 up to 990mm stroke, 2 if > 1015mm stroke : 6mm overall dia tube	
Mounting	Above, Below, or Vertical on the window	
Type approvals	DNV, ABS	

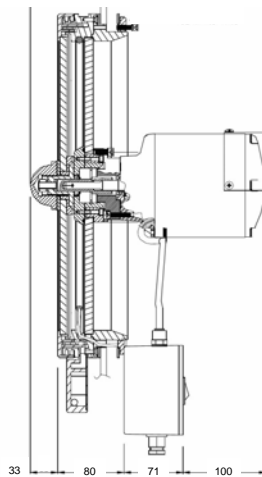
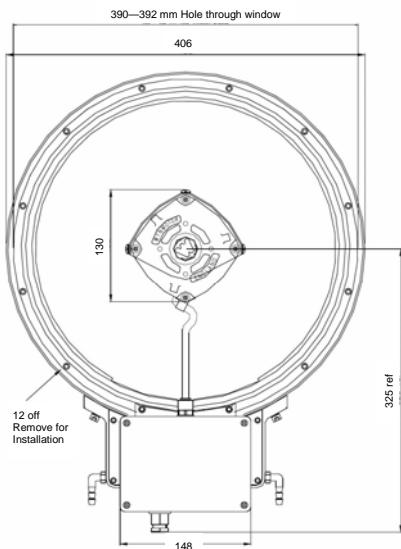
WYNN CLEAR VIEW WIPERS

Perfect for all types of commercial vessels and for specialised shore - based applications. Clear view screens can be mounted in panels of toughened plate glass, laminated glass or metal (panel thickness to be specified when ordering). This thickness appears on the certificate of conformity and is to be specified when ordering certain spares.

Designed to ISO 3904 standards, Clear View Screens provide a perfect view in any weather condition. Based on the proven high speed rotation principle, the centrifugal force created by the spinning disc throws off all rain snow or ice giving instant clear vision.

Fan cooled, constant speed induction motors for single phase or three phase operation or permanent magnet motors for DC operation are available.

Optional metal sheathed, ceramic filled heaters are used of the same voltage as the screen motor. For rapid ice and misting clearance, power consumption is approximately 250W.



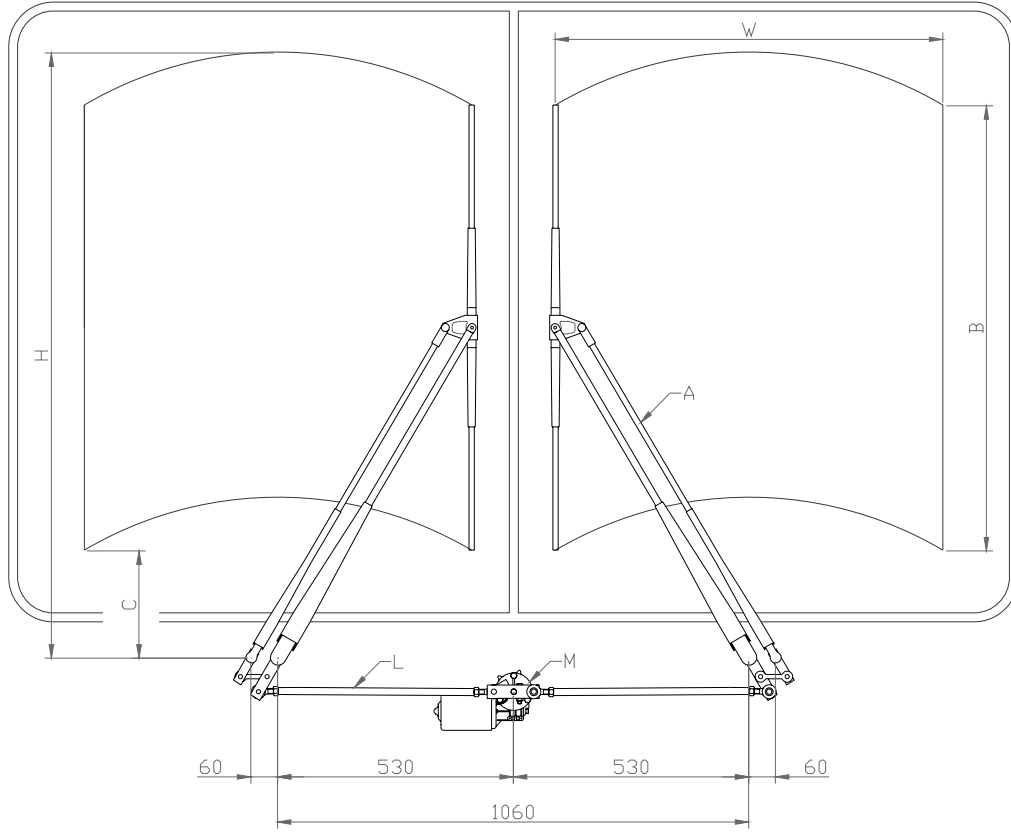
PART NO.	DESCRIPTION
C350-000	TYPE 'C350' HEAVY DUTY CLEAR VIEW SCREEN CLEARLIGHT DIAMETER 350mm 115V OR 230VAC VOLTAGES MOUNTING THICKNESS 10, 12, 16, OR 19mm c/w 250 WATT DE-ICING HEATER & 2M CABLE On/Off CONTROLLER LOCAL MOUNTING WEATHER TIGHT OR GAS TIGHT & CERTIFIED BY WYNN





CONTROL UNIT OPTIONS	
1000-115-111CVS	1 Way Control Unit: 115VAC C.V.S.
1000-220-111CVS	1 Way Control Unit: 220VAC C.V.S.

ACCESSORIES	
C350-055-A-01	C350 CVS Tool box with spanner & fuse 1.6 amp (230v)
C350-055-A-02	C350 CVS Tool box with spanner & fuse 3.15 amp (115v)
C350-055-A-03	C350 CVS Tool box with spanner & fuse 5.0 amp (100v)

HEPWORTH / DUDLEYS LARGE DUAL SCREEN WIPER KITS

SWSA510 Heavy Duty Pantograph Wiper Kit



M		24 Volt, 2 Speed Self Park Motor, Torque 80 Nm
A		Pantograph Arm with Travelling Washer Jet , 60 crs
B		Curved Screen Blade, 20mm clip
L		Crank, Link, and Spindle Kit, 16mm drive-12mm idler

53 Degree Sweep	A	28" 710			30" 760			32" 810			34" 860		
	W	640			685			730			775		
	B	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700	32" 810	36" 905	39" 1000	32" 810	36" 905	39" 1000
	H	1015	1040	1060	1065	1090	1110	1215	1260	1310	1265	1310	1360
	C	330	305	285	375	350	330	320	275	225	365	320	270

61 Degree Sweep	A	28" 710			30" 760			32" 810			34" 860		
	W	720			770			820			875		
	B	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700	32" 810	36" 905	39" 1000	32" 810	36" 905	39" 1000
	H	1015	1040	1060	1065	1090	1110	1215	1260	1310	1265	1310	1360
	C	310	285	265	350	325	305	295	250	200	340	295	245

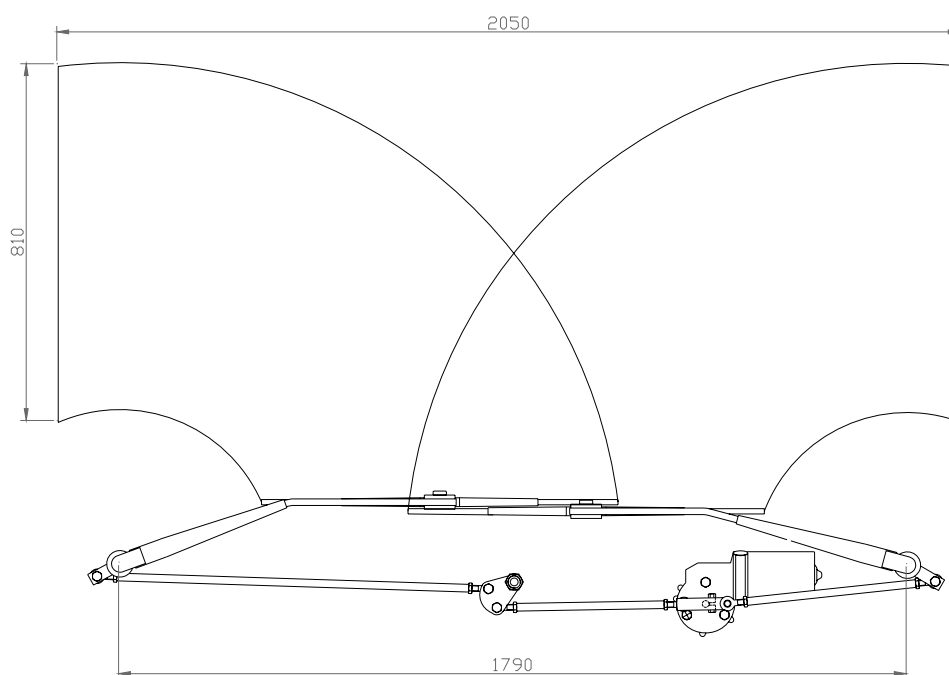
HEPWORTH / DUDLEYS LARGE SCREEN WIPER KITS





68 Degree Sweep	A	28" 710			30" 760			32" 810			34" 860		
	W	800			855			915			970		
	B	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700	32" 810	36" 905	39" 1000	32" 810	36" 905	39" 1000
	H	1015	1040	1060	1065	1090	1110	1215	1260	1310	1265	1310	1360
	C	285	260	240	325	300	280	270	225	170	310	265	215

75 Degree Sweep	A	28" 710			30" 760			32" 810			34" 860		
	W	880			940			1005			1070		
	B	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700	32" 810	36" 905	39" 1000	32" 810	36" 905	39" 1000
	H	1015	1040	1060	1065	1090	1110	1215	1260	1310	1265	1310	1360
	C	255	230	210	295	270	250	235	190	140	275	230	180

A = Arm length centre to centre B = Blade length W = Width of sweep on screen
H = Height of sweep from spindle C = Clearance between blade and spindle

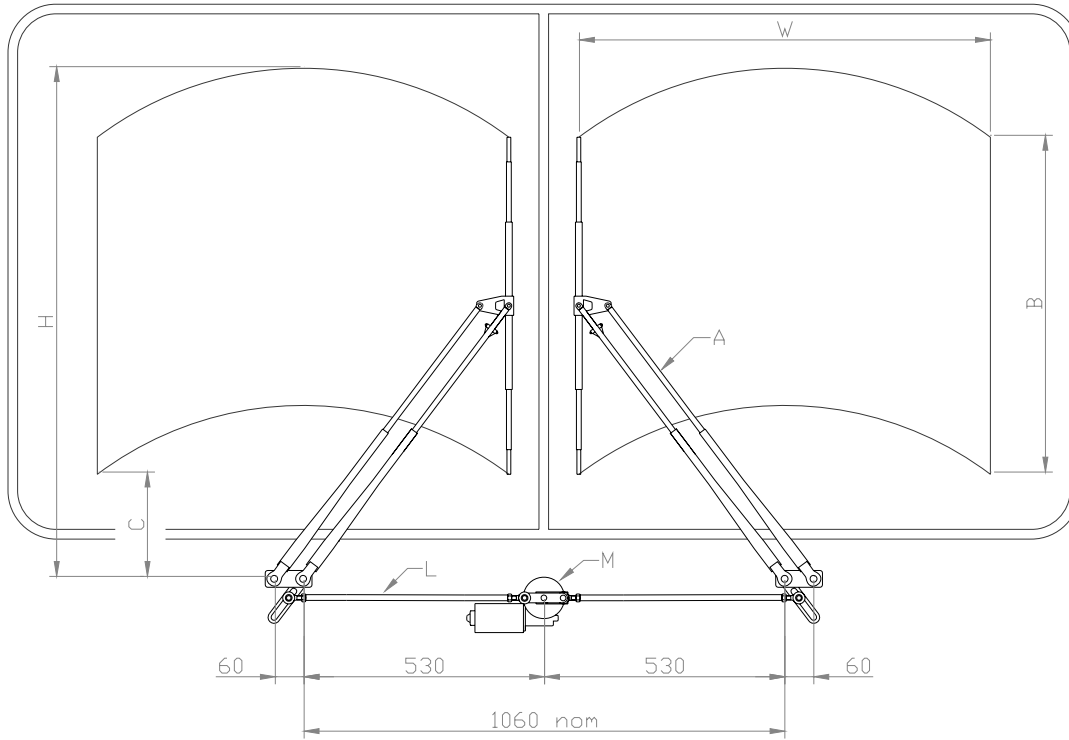
Large Wrapover Wiper Kit Optare Excel







M		24 Volt, 2 Speed Self Park Motor, Torque 110 Nm
A		Radial Arm with Travelling Washer Jet, 740mm
B		Curved Screen Blade, 20mm clip, 810mm
L		Crank, Decelerator, Link, and Spindle Kit, 16mm drive

HEPWORTH / DUDLEYS LARGE DUAL SCREEN WIPER KITS

SWSA515 Variable Arc Pantograph Wiper Kit



M		24 Volt, 2 Speed Self Park Motor, Torque 50 Nm
A		Pantograph Arm with Travelling Washer Jet, 60 crs
B		Curved Screen Blade, 14mm clip
L		Crank, Link, and Spindle Kit, 12mm drive-12mm idler

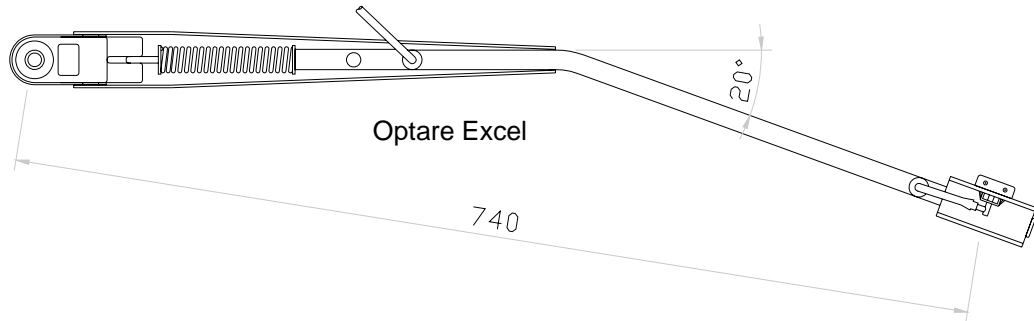
50 to 90 Degree Sweep - 125 degrees With radial arm	A	24" 610			26" 660			28" 710		
	W	515- 865			560- 935			600- 1005		
	B	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700
	H	915	940	960	965	990	1010	1015	1040	1060
	C	245- 125	220- 100	200- 80	290- 160	270- 135	250- 115	335- 195	310- 170	290- 150

A = Arm length centre to centre B = Blade length W = Width of sweep on screen
H = Height of sweep from spindle C = Clearance between blade and spindle

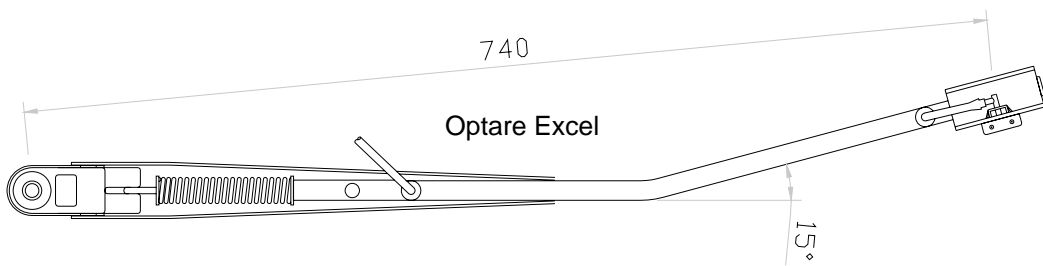
HEPWORTH RADIAL ARMS

Bus and Coach

See page 48 for Bosch blades

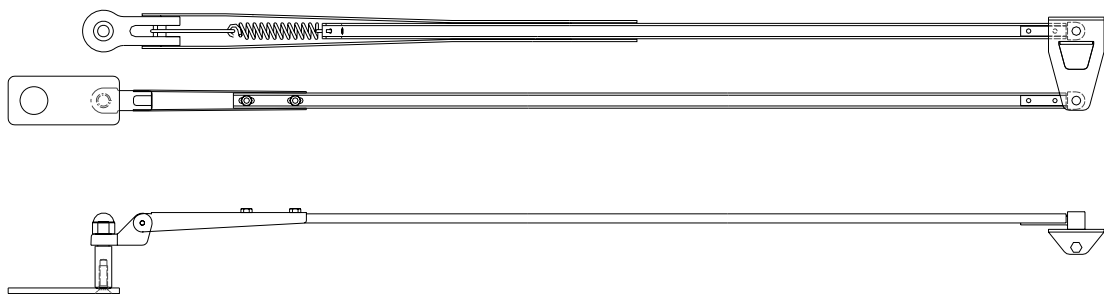


Arm LH	Length	Head	Blade Bolt	Blade Clip
803184	740	16 DIN	6	20



Arm RH	Length	Head	Blade Bolt	Blade Clip
803183	740	16 DIN	6	20

Bus and Coach

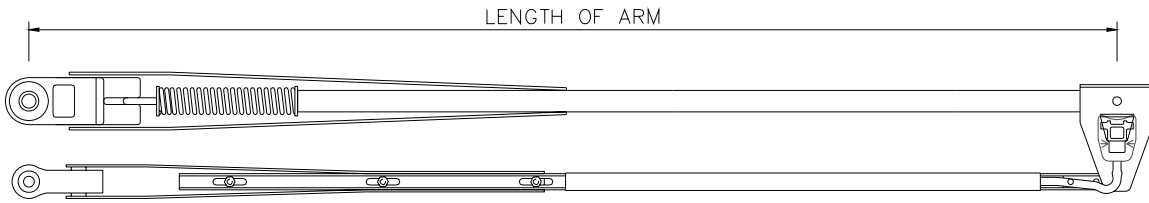


Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Bolt	Blade Clip
P154	660, 710, 760	12 DIN	10 pedestal	50	4.8	14

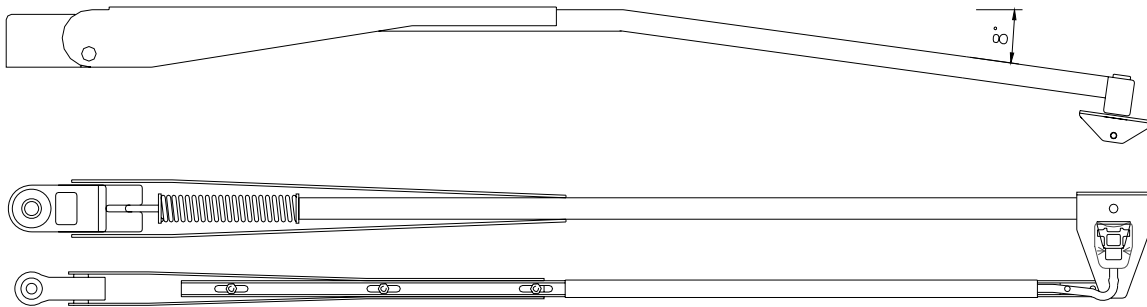
HEPWORTH / DUDLEYS PANTOGRAPH ARMS

Bus and Coach

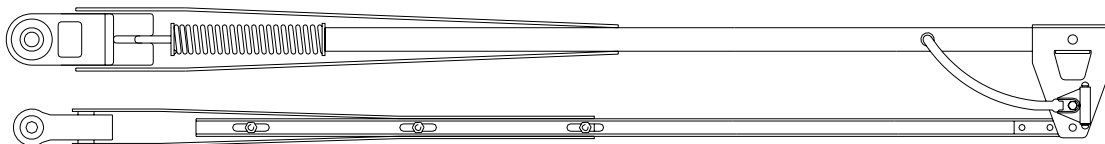
See page 48 for Bosch blades



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P85- TJ	810, 860	16 DIN	12 DIN	60	20



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
803401 (P85, 8 deg)	860	16 DIN	12 DIN	60	20

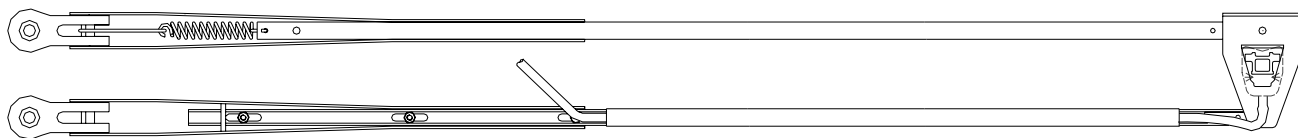


Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P90- TJ	710, 760	16 DIN	12 DIN	60	14
P95- TJ	710, 760	16 DIN	16 DIN	60	14

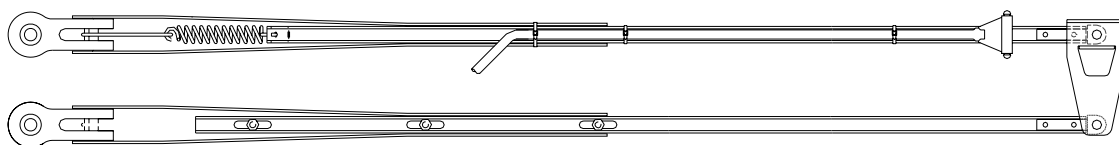
HEPWORTH / DUDLEYS PANTOGRAPH ARMS

Bus and Coach

See page 48 for Bosch blades



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P175- TJ	850, 1000	12 DIN	12 DIN	60	20



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P153- TJ	610, 660, 710	12 DIN	12 DIN	60	14
P162- TJ	610, 660, 710	12 DIN	12 DIN	50	14

<p>DIN Taper</p> <p>Main & Idler Heads</p>	<p>Thread</p> <p>7/16-24NS</p> <p>Idler Head</p>	<p>Bridge Centre</p>	<p>Blade Clip</p>
--	--	----------------------	-------------------

Note: When ordering, include the length in inches in the Part number. e.g. P85-34TJ

Lengths are in 2" (50mm) increments

TJ, Denotes Travelling Jet, (Arms normally supplied without travelling jets, can be fitted with them)

The various wiper arms shown belong to the most up to date applications. Should your requirements differ in any way, we will come up with an alternative arm according to your specification as soon as possible

HEPWORTH / DUDLEYS LINKAGE SYSTEMS

Single Crank 30 & 50Nm



- 60124201 30 cr, 3/8" rose, 10-8 taper
- 60620701 30 cr, 3/8" rose, 12-10 taper



- 60261600 40 cr, 12 rose, 13 shaft
- 60496301 40 cr, 3/8" rose, 13 shaft
- 60619801 30 cr, 3/8" rose, 9 shaft

Rose bearing



- 10055401 12 RH
- 10055501 12 LH
- 10055200 3/8" RH
- 10055300 3/8" LH



- 60503500 Double ended, 60 cr



- 6004400 3/8" Flat 2-M5 holes @ 26

Spindle Weather Cap

- 60034600 M20
- 60054600 M26



- 1009510

Nut Cap



- 10060300 M8 nut (13mm)

Single Crank 80Nm



- 60911004 57.5 cr, 12 pin, 13 shaft

Bearing Pin



- 60532700 double 3/8" bearing
- 60532300 single 3/8" bearing

Pivot Cap



- 80002200 P612, P613, P153, P162

Pantograph Plate (Marine)



- 65201700 8 shaft, 50 cr



- 60044401 7/16" 24 NS pivot, 50 cr



- 60847202 12 DIN spindle, 50 cr

Tie Bar / Link Rod



- 60009324 3/8" 500 L
- 60121355 12 115 L
- 60121300 12 380 L
- 60121302 12 460 L
- 60121314 12 500 L
- 60121372 12 700 L

Motor Covers



- 10063900 30 / 50 Nm Fibreglass



- 65200500 2 Nm Fibreglass

Head Cap



- 80002100 P153, P162



- 80005100 P84, P85, P90, P95

Galley & Head (Idler arm)



- 80101500 10 DIN
- 80206003 7/16" 24 NS

HEPWORTH / DUDLEYS LINKAGE SYSTEMS

Spindle Assembly (Bus)



60981800 12 DIN, 90 liner, 66 cr
Same side 10mm pin
60 crs

Spindle Assembly (Bus)

Same side shown



60598802 16 DIN drive, 90 liner, 89 cr
12 DIN idler, 90 liner, 50 cr
same side 12 rose

60598702 16 DIN drive, 90 liner, 89 cr
12 DIN idler, 90 liner, 50 cr
off side 12 rose
60 crs

B / Pedal Crank

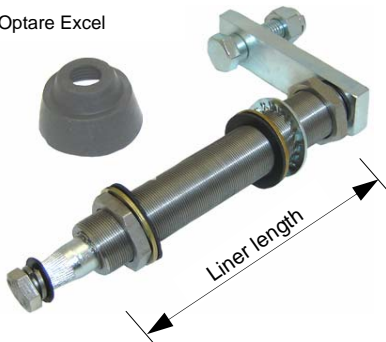


60264900 40-80, 12 rose, 13 shaft
60981600 45-90, 12 rose, 13 shaft
60256110 50-100, 12 rose, 13 shaft
60420100 55-110, 12 rose, 13 shaft
60446500 60-120, 12 rose, 13 shaft

60794100 40-80, 3/8" rose, 13 shaft
60649100 40-80, 3/8" rose, 9 shaft
60934801 45-90, 12 rose, 16 shaft

Spindle & Decelerator (Bus)

Optare Excel



60934600 16 DIN, 140 liner, 54 cr
60934700 16 DIN, 140 liner, 67 cr



60935000 Decelerator

Idler (Bus)



60122611 12 DIN, 40 liner, (no plate)
60650300 12 DIN, 90 liner, 60 cr
60650301 12 DIN, 125 liner, 60 cr

Idler (Marine)



60119512 12 DIN, 80 liner
60119513 12 DIN, 110 liner
60119506 12 DIN, 150 liner
60119812 12 DIN, 80 SS liner

Spindle Vari Arc (Bus)



60650200 12 DIN, 90 liner, 3/8" rose
60650201 12 DIN, 125 liner, 3/8" rose

Spindle Vari Arc (Marine)

Adjustable in
5 degree increments



68005001 16 DIN, 57 liner, 12 rose
68005002 16 DIN, 85 liner, 12 rose
68005013 16 DIN, 90 liner, 12 rose
68005003 16 DIN, 110 liner, 12 rose
68005018 16 DIN, 120 liner, 12 rose
68005004 16 DIN, 135 liner, 12 rose

68003401 16 DIN, 57 liner, 60 cr
68003402 16 DIN, 85 liner, 60 cr
68003413 16 DIN, 90 liner, 60 cr
68003403 16 DIN, 110 liner, 60 cr
68003416 16 DIN, 120 liner, 60 cr
68003404 16 DIN, 135 liner, 60 cr

Spindle Vari Arc (Marine)



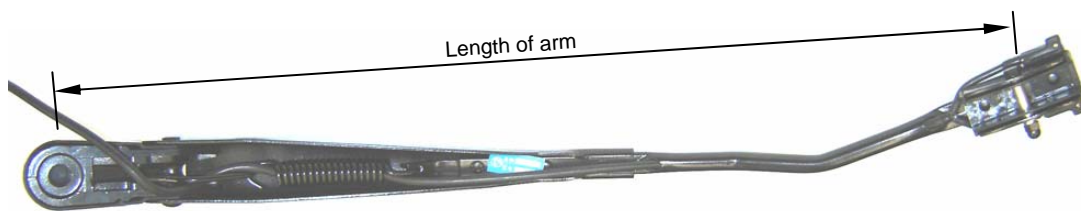
65008701 12 DIN, 57 liner, 3/8" rose
65008703 12 DIN, 110 liner, 3/8" rose
65008704 12 DIN, 135 liner, 3/8" rose
65008705 12 DIN, 160 liner, 3/8" rose
65009009 12 DIN, 200 liner, 3/8" rose
65008403 12 DIN, 110 SS liner, 3/8"

CHINESE SYSTEMS LARGE SCREEN WIPER PARTS

Feipeng, Designline



Arm LH	Length	Head	Blade Bolt	Blade Clip
FPDYG-01	675	16 — 11.8	8	20, 26



Arm RH	Length	Head	Blade Bolt	Blade Clip
FPDYG-02	675	16 — 11.8	8	20, 26

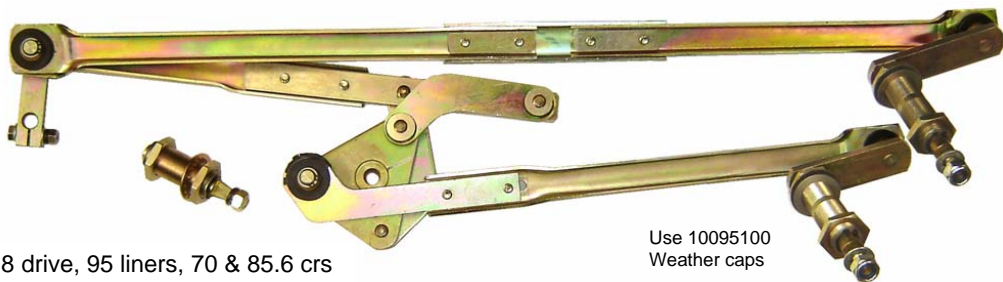


Blade	Length	Bolt Diameter	Blade Clip
B140-32FEI	800	8	20

Linkage Assembly

Wrapover

SD2733A motor to suit
See page 47



16 –11.8 drive, 95 liners, 70 & 85.6 crs

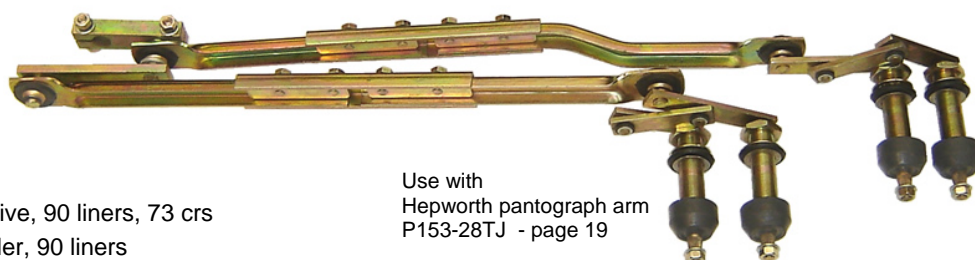
Use 10095100
Weather caps

FPLDG-0001 57.5 crank , 13 shaft coarse spline

Linkage Assembly

Pantograph

SD2733A motor to suit
See page 47



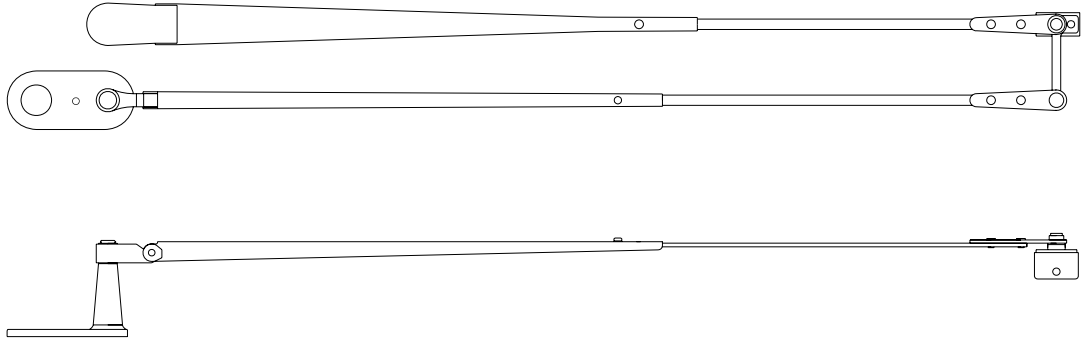
12DIN drive, 90 liners, 73 crs
12DIN idler, 90 liners

Use with
Hepworth pantograph arm
P153-28TJ - page 19

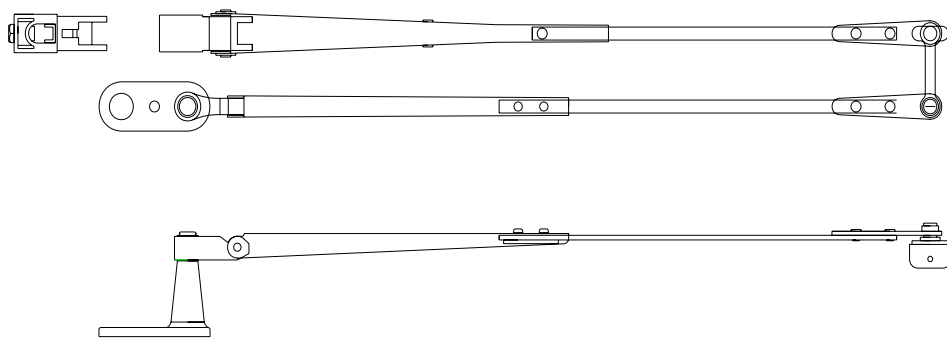
FPLDG-0003 48.5 x 97 crank , 13 shaft coarse spline

JAPANESE BUS PANTOGRAPH ARMS

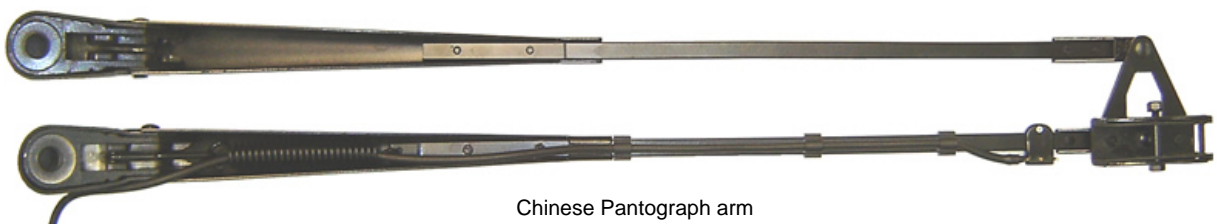
Bus and Coach



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
A907-700	700	8-10 taper	Pivot block	50	14
A908-	700, 750	10-12 taper	Pivot block	50	14



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
A901	450, 560	10 straight	Pivot block	40	6.5



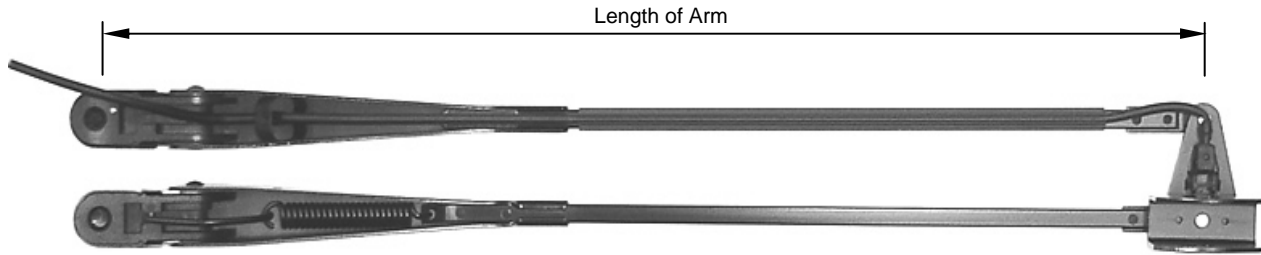
Chinese Pantograph arm

Arm	Length	Main Head	Idler Head	Bridge cr	Blade bolt	Blade Clip
TC881	750, 800, 850	11.8-16 taper	11.8-16 taper	60	8	20, 25

SWF PANTOGRAPH ARMS

Bus and Coach

See page 49 for SWF blades



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Bolt	Blade Clip
106.080	710	16 DIN	16 DIN	60	8	25
107.515	795	16 DIN	16 DIN	60	8	25
106.671	870	16 DIN	16 DIN	60	8	25
108.294	970	16 DIN	16 DIN	60	8	25



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Bolt	Blade Clip
103.980	700	12 DIN	12 DIN	60	6	16
104.580	750	12 DIN	12 DIN	60	6	16



Arm Drive	Length	Main Head	Pivot Bush
104.171	680	12 DIN	8



Arm Idler	Length	Idler Head	Pivot Bush
104.173	680	12 DIN	8

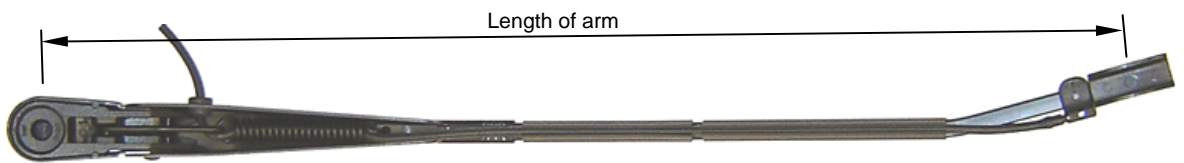
SWF RADIAL ARMS

Bus and Coach

See page 49 for SWF blades



Arm LH	Length	Head	Blade Bolt	Blade Clip
104.711	700	16 DIN	6	16



Arm RH	Length	Head	Blade Bolt	Blade Clip
104.710	700	16 DIN	6	16



Arm LH	Length	Head	Blade Bolt	Blade Clip
106.294	675	16 DIN	8	25

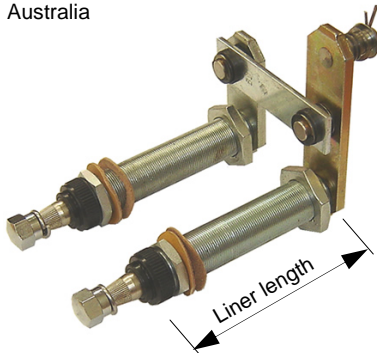


Arm RH	Length	Head	Blade Bolt	Blade Clip
106.293	675	16 DIN	8	25

SWF LINKAGE SYSTEMS

Spindle Assembly

Coach Design
Australia

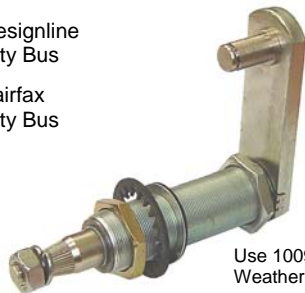


107.137 12 DIN drive, 90 liner, 72.5 cr
12 DIN idler, 90 liner, 40 cr
off side 10mm pin
60crs

Spindle

Designline
City Bus

Fairfax
City Bus

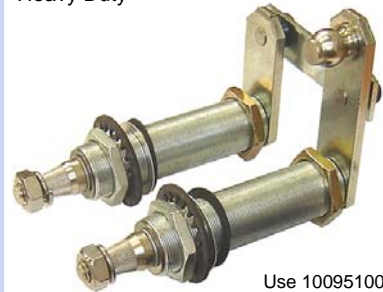


Use 10095100
Weather cap

105.585 16 DIN, 80 liner, 85.6 cr
same side 12mm pin
105.586 16 DIN, 80 liner, 70 cr
same side 12mm pin
106.539 16 DIN, 70 liner, 83 cr
same side 12mm pin
106.540 16 DIN, 70 liner, 70 cr
same side 12mm pin

Spindle Assembly

Coachwork
Heavy Duty



Use 10095100
Weather caps

107.313 16 DIN drive, 90 liner, 71.3 cr
16 DIN idler, 90 liner, 45 cr
same side 16mm ball
60crs

Spindle Drive

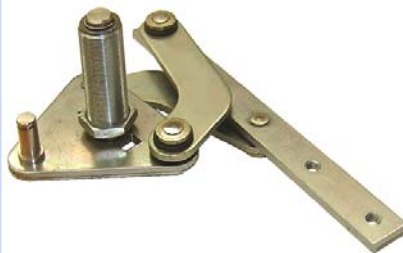
Coachwork
Light Duty



102.666 12 DIN, 130 liner, 72.5 cr
off side 10mm pin

Spindle Decelerator one piece

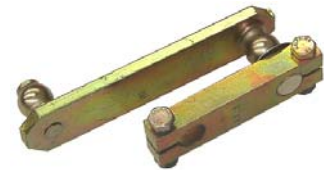
Designline
City Bus



104.596 M26, 60 liner,
12mm pin

B / Pedal Crank

Coachwork
Heavy Duty



106.711 48.5-97, 16mm ball, 13 shaft

Spindle Idler

Coachwork
Light Duty



102.665 12 DIN, 100 liner

Spindle Decelerator Two piece

Fairfax
City Bus

Also fits Designline
Chinese system



105.391 Decelerator, 12mm pin

Spindle Weather Cap

Coachwork
Heavy Duty

Designline
City Bus

Fairfax
City bus



10095100 M26, 16 DIN

B / Pedal Crank

Coach Design
Australia

Coachwork
Light Duty



104.773 48.5-97, 10mm pin, 13 shaft
102.700 40-80, 10mm pin, 9 shaft

Crank

Designline
City Bus

Fairfax
City Bus



104.293 57.5 cr, 12mm pin, 13 shaft

Link Rod Cup Bush



LRC16 16 Dia ball closed end
LRC16-O 16 Dia ball open end

SWF LINKAGE SYSTEMS

Tie Bar / Link Rod



103.646 Suit 10mm pin, 575mm to 590mm cr-cr,
25mm offset dogleg

Coach Design
Australia

Tie Bar / Link Rod



107.317 Suit 16 Dia ball, 583mm cr-cr, closed / closed
107.318 Suit 16 Dia ball, 583mm cr-cr, open / closed

Coachwork
Heavy Duty

Tie Bar / Link Rod



102.819 Suit 10mm pin, 497mm to 513mm cr-cr
102.820 Suit 10mm pin, 615mm to 632mm cr-cr

Coachwork
Light Duty

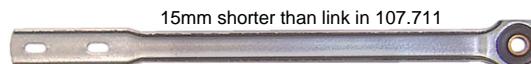
Tie Bar / Link Rod



107.708 Suit 12mm pin, 895 to 915mm cr-cr

Fairfax
City Bus

Tie Bar / Link Rod

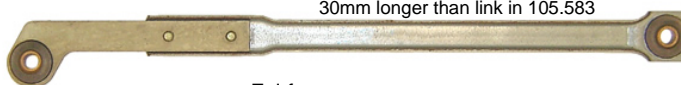


15mm shorter than link in 107.711

190.942 Suit 12mm pin, 400mm cr-end

Fairfax
City Bus

Tie Bar / Link Rod



30mm longer than link in 105.583

107.711 Suit 12mm pin, 500—510mm cr-cr

Fairfax
City Bus

Link Rod Spindle Assembly



105.583 includes 104.596 Decelerator, and 105.586 spindle
connects to 104.293 crank

Designline
City Bus

Link Rod Spindle Assembly

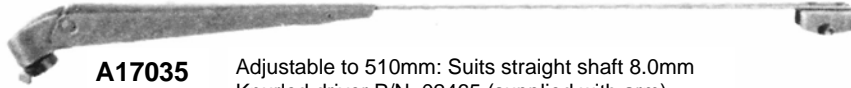


105.584 includes 105.585 spindle
connects to 104.293 crank

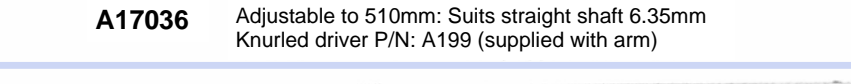
Designline
City Bus

TRICO RADIAL ARMS

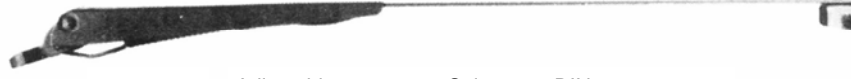
Adjustable Arms



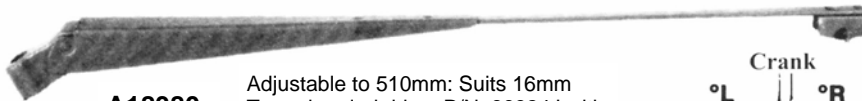
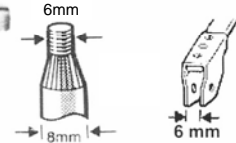
A17035 Adjustable to 510mm: Suits straight shaft 8.0mm
Knurled driver P/N: 02465 (supplied with arm)



A17036 Adjustable to 510mm: Suits straight shaft 6.35mm
Knurled driver P/N: A199 (supplied with arm)

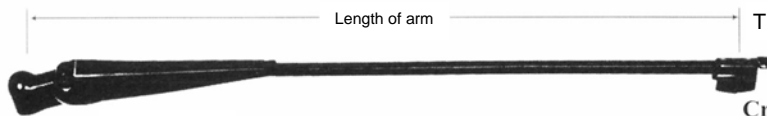
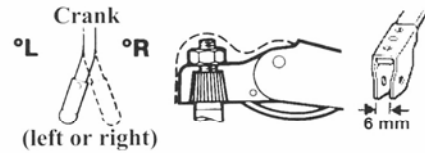


A17076 Adjustable to 510mm: Suits 8mm DIN taper



A18380 Adjustable to 510mm: Suits 16mm
Taper knurled driver P/N: 86324J with
Clamp down nut.

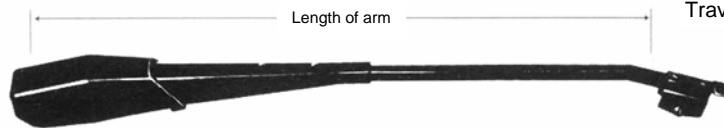
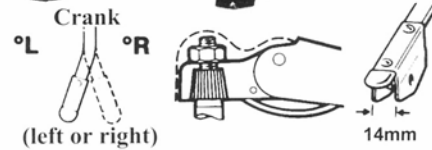
Note: Adjustable for left or right crank



TCA620 Lengths 36, 41, 43, 48, 51, 56, 61cm.
Knurled driver Part No. 101569
Washer jet Part No. 75400
Suffix P/N
With length
eg: 6200036

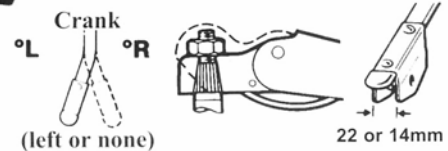
Note: Adjustable for left or right crank

Travelling Washer Jet P/N 75400



**63000
SERIES** Lengths from 56cm to 75cm
12 DIN or 16 DIN units available.
Available with straight arm. (without crank)

Travelling Washer Jet P/N 75400



Flat Screen Wiper Blades

607 SERIES



Standard Lengths Available:
41,51, & 61cm



604 SERIES

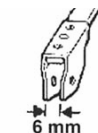


Standard Lengths Available:
41,51, & 61cm



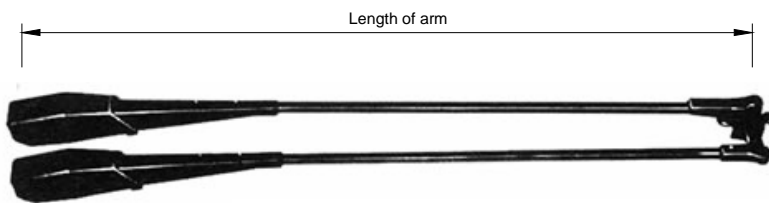
609 SERIES

36,41,46,51cm
Lengths Available



TRICO PANTOGRAPH ARMS

DIN Tapered Head



Travelling Washer Jet P/N 75400



Note: Suffix P/N with required length. Eg: 6800066

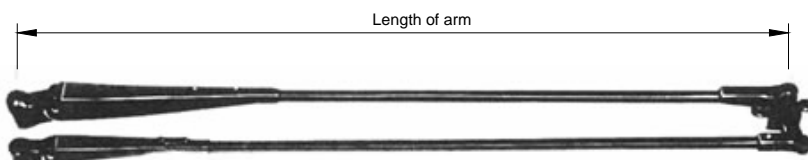
Part Number	Length (cm)	Main Head	Idler Head	Bridge Centers	Blade Clip
68000	66 to 85cm				
68001					12 DIN
68100		16 DIN	16 DIN		22mm
68101		16 DIN	16 DIN		14mm

Travelling Washer Jet P/N 75400



Part Number	Length (cm)	Main Head	Idler Head	Bridge Centers	Blade Clip
TPA682	71cm				
TPA952			10 DIN Collet & Clamp		

Knurled driver Head



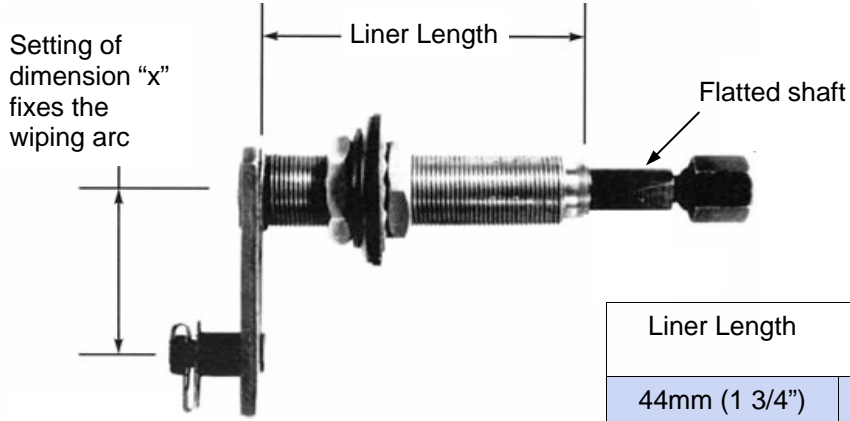
Travelling Washer Jet P/N 75400



Part Number	Length (cm)	Main Head	Idler Head	Bridge Centers	Blade Clip
66000	51,56, 61,66,71				10mm
67000	51,56, 61,66,71		Collet & Clamp		44

TRICO SPINDLES

Trico Spindles For "Indirect Motor Drive"



Supplied complete with retaining Nut and circlip on drop arm pin. Pantograph pivots are assembled With mounting plate, rubber Gasket and swivel

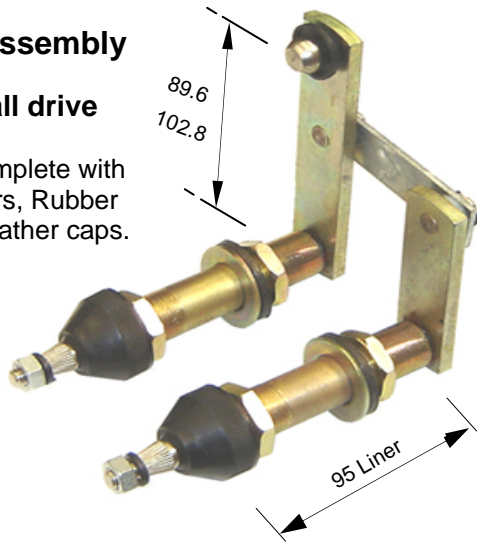
Liner Length	Radial Arm (less swivel plate)	Pantograph Arm (with swivel plate)
44mm (1 3/4")	03125 x dim: 46, 51	03131 x dim: 65
75mm (3")	03126 x dim: 42, 61, 63, 65	03132 x dim: 61
100mm (4")	03127 x dim: 46, 51, 61	03133 x dim: 65

NOTE: Part Numbers must be suffixed with "x" dimension, as illustrated above. Eg. 0312551

Spindle Assembly

14.4mm ball drive

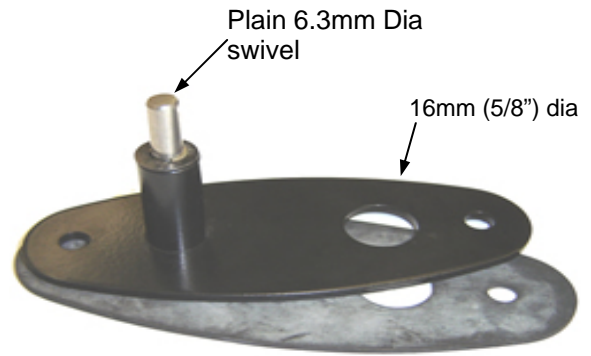
Supplied complete with nuts, washers, Rubber Gaskets, weather caps.



75353-60-89.6 12 DIN drive, 95 liner, 89.6 cr, 14.4 ball
75353-60-102.8 12 DIN drive, 95 liner, 102.8 cr, 14.4 ball

Swivel plate Indirect drive

Suit 44mm Arm Centres



03189

Knurled Driver

Adapts flatted shaft To 17.5—14.5 taper



101569

Knurled Driver

Adapts 6mm straight shaft to 13.7mm spline



A199 6mm

Knurled Driver

Adapts 8mm straight shaft to 13.7mm spline



02465 8mm

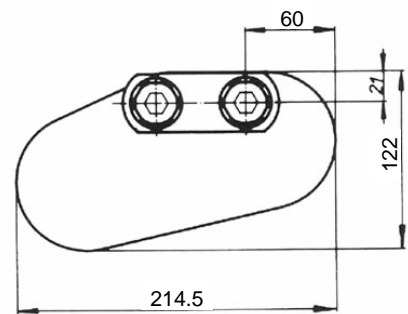
DOGA MARINE SCREEN WIPER SYSTEMS


Model 111

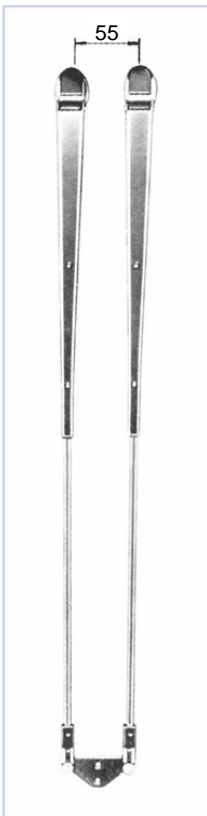
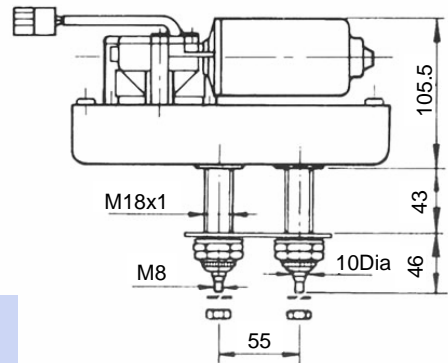
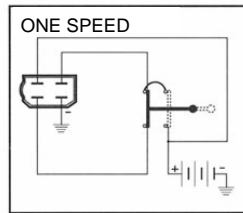


With two reciprocating driving shafts. Starting torque, with wiper motor cold: 25 Nm. This type of motor is supplied with automatic park.

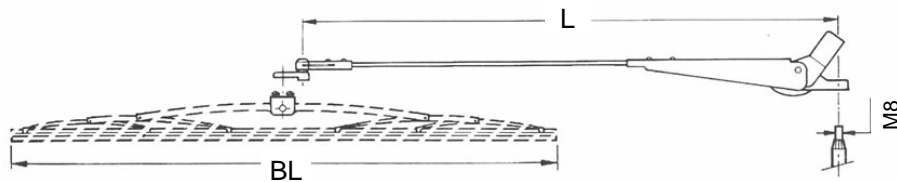
All these motors can also be supplied on application with 60, 72, & 80 degree wipe angles

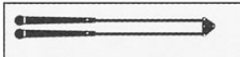



Part Number	Volts	
111.9509.20.16	12	50
111.9509.30.16	24	50



Pantograph Arms To suit 111 motor



	L mm
123.1001.GA.06	500
123.1002.GA.06	600
123.1005.GA.06	700

	BL mm
136.1650.BA.06	500
136.1660.GA.06	600
136.1770.GA.06	700

All these arms are provided with tubes and screen washer nozzles.

DOGA SMALL SCREEN WIPER SYSTEMS

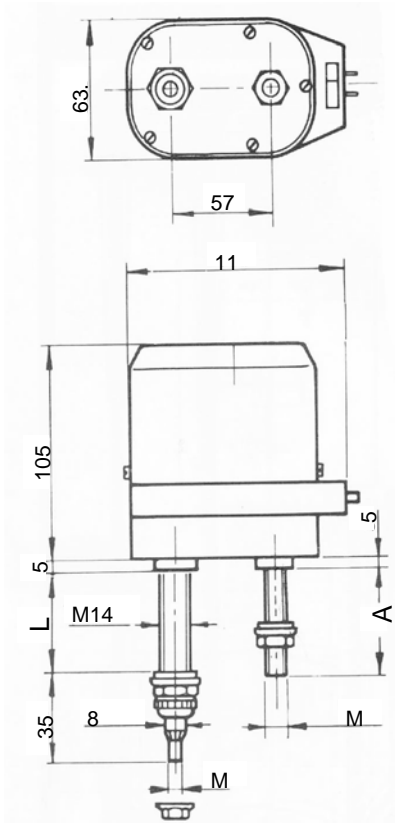
Model 113



With reciprocating shaft end
According to A8 x M6 DIN 72783.
Two points fixing,

Starting torque, with wiper motor cold:
7 Nm. Normal running torque: 1.4 Nm.
Oscillations per minute: 43.

All these motors can be supplied on
request with 60mm shaft and different
wiping angles



Remote Switch & Automatic park

Part Number	Volts	Degrees	L (mm)	A (mm)
113.5573.20.D0	12	110	60	70
113.5573.30.D0	24	110	60	70
113.5523.30.D0	24	110	19	30
113.5473.20.D0	12	90	60	70
113.5473.30.D0	24	90	60	70
113.5423.20.D0	12	90	19	30
113.5423.30.D0	24	90	19	30
113.5323.20.D0	12	80	19	30
113.5223.20.D0	12	60	19	30
113.5223.30.D0	24	60	19	30

Built in switch manual park

Part Number	Volts	Degrees	L (mm)	A (mm)
113.5420.20.00	12	90	19	30
113.5420.30.00	24	90	19	30

Image	BL mm
	BL mm
138.3936.B0.04	360
139.3950.B0.04	500

Image	BL mm
	BL mm
136.1640.B0.04	400
136.1645.B0.04	450
136.1650.B0.04	500

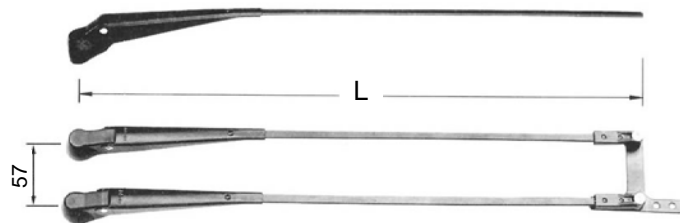


Image	L mm
	L mm
120.7201.D0.R4	400
120.7203.GA.R4	500


Image	L mm
	L mm
121.0224.GA.04	400
121.0225.GA.D4	450
121.0226.GA.04	500

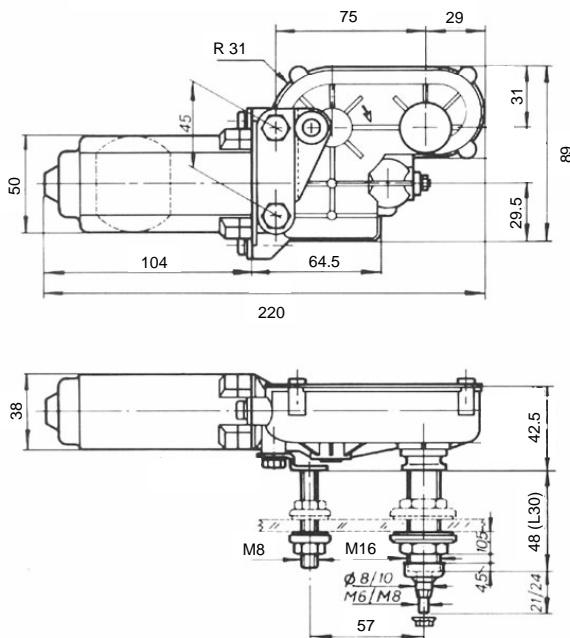
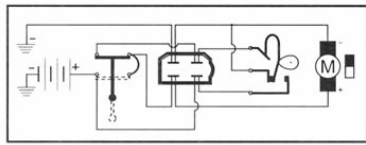
DOGA MARINE SCREEN WIPER SYSTEMS

Model 116

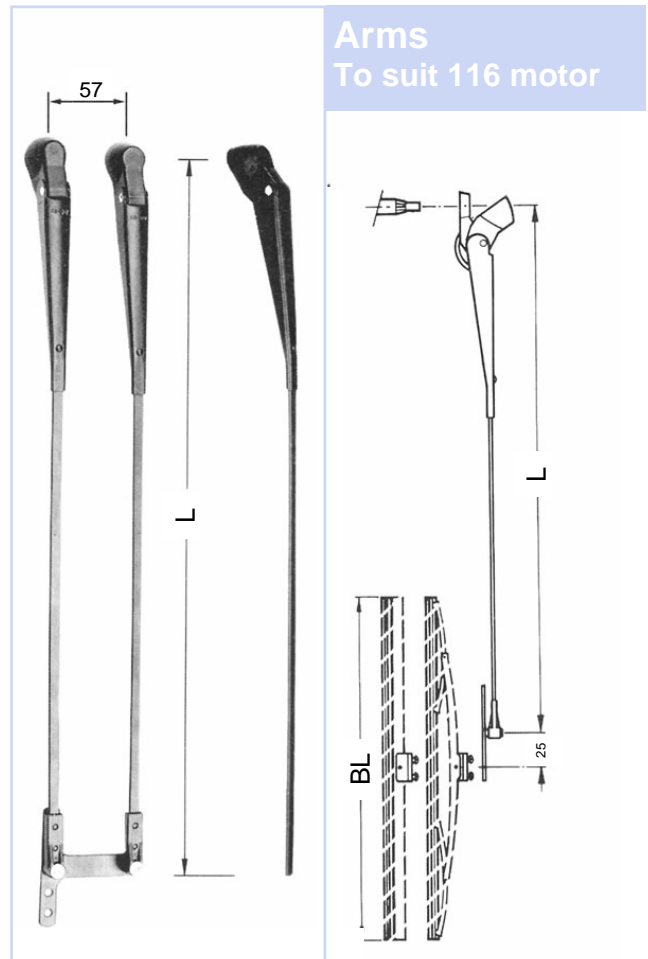
With one reciprocating driving shaft, two fixing points and a switch on the cover.
Starting torque, with the wiper motor cold:
10 Nm. This type of motor is provided with automatic park.




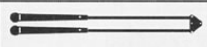
Part Number	Volts	
116.4462.B16E	12	90
116.4464.3B16E	24	90
116.1864.20.16	12	110
116.4864.3016	24	110




Arms To suit 116 motor



	L mm
120.7204.BA.R6	350
120.7202.BA.R6	450
120.7203.BA.R6	500

	L mm
121.0224.GA.06	400
121.0910.GA.D6	500
121.0227.GA.06	550

	BL mm
134.1635.BA.06	350
134.1640.BA.06	400
134.1645.BA.06	450
134.1650.BA.06	500

AFI GM WIPER SYSTEMS



Designed by marine companies and manufactured specifically for marine usage.

Fully sealed waterproof housing.

UV stabilised, high temperature, high impact thermoplastic alloy construction.

Anti-rotation drive shaft with std knurled shaft and solid brass arm drive nut.

Modern styling, no additional covers needed.

Especially good for open cabins with exposed motors.

Features

GM1 Motor

- Adjustable wipe angle capability
- Self parking one side
- Suitable for marine applications
- factory set for a 110 degree wipe angle that can be adjusted in minutes to 50, 65, or 80
- 168 L x 86 W x 51 H
- Weight 1.75 lbs (800g)
- Up to 16" x 16" arm / blade combination.



GM2 Motor

- Adjustable wipe angle capability
- Self parking left or right
- Suitable for marine applications
- factory set for a 110 degree wipe angle that can be adjusted in minutes to 45, 60, or 80
- 197 L x 98 W x 60 H
- Weight 2.7 lbs (1.2 kg)
- Up to 24" x 24" arm / blade combination.

Motors		
Part No.	Voltage	L1-max
GM1-2 1/2	12	37mm
GM1-1 1/2	12	12mm
GM2-2 1/2	12	37mm
GM2-1 1/2	12	12mm



Blades		
Part no.	Length	Color
07290	12"	Black
07292	16"	Black
07293	18"	Black
07294	20"	Black
07295	22"	Black
07296	24"	Black

Arms		
Part no.	Length	Type
07261	355—510mm	Pendulum
07268	305—430mm	Pantograph
07263	460—610mm	Pendulum
07270	430—560mm	Pantograph

VETUS WIPER SYSTEMS



Top quality marine wipers, which meet all the demands of a boat windscreen wiper.

A powerful motor and a separate housing with worm wheel transmission.

Extremely quiet in operation. Highly suitable for all kinds of boats.

Attractive plastic cover available for exposed mountings.

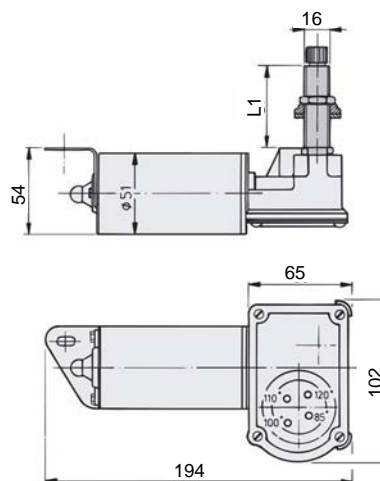
Vetus wiper arms are made entirely of Stainless steel (AISI 316).

Features

- Adjustable wipe angle capability
- 2 Speed
- Auto park
- Suitable for marine applications

All Vetus wipers are factory set for a 110 degree wipe angle that can be adjusted to 40, 50, 60,70,80,90, and 100 degrees.

Motors		
Part No.	Voltage	L1
RW08S	12	25mm
RW09S	24	25mm
RW01S	12	51mm
RW02S	24	51mm
RWCG	Plastic Motor Cover	



Installation of the plastic cover reduces L1 by 3mm.



Shown without bottom plate

The pantograph wiper arm is supplied with a connection kit and idle spindle as standard, reducing L1 by 3mm.

Both wiper blades can be fitted to the twin wiper arm in 2 different positions, so that the wiped surface can be adjusted.



Blades		
Part no.	Length	Color
WBB30	305mm	Black
WBB41	410mm	Black
WBB51	510mm	Black

Arms		
Part no.	Length	Type
SSAS	280—366mm	Pendulum
SSAL	395—481mm	Pendulum
SSAX	473—559mm	Pendulum
SSAD	308—393mm	Pantograph
SSADX	386—471mm	Pantograph

ROCA WIPER SYSTEMS



The new designed Roca Waterproof system is marine quality, consequently ideal for any type of service.

Variable sweep adjustment can be easily made after the windshield wiper is mounted, for best fit to your windshield.

Insulated ground which makes it also suitable on metal boats.

Fully sealed waterproof housing made of UV-stabilised thermo plastic in a compact size.

Easy adjustment for self park on left or right side

Features

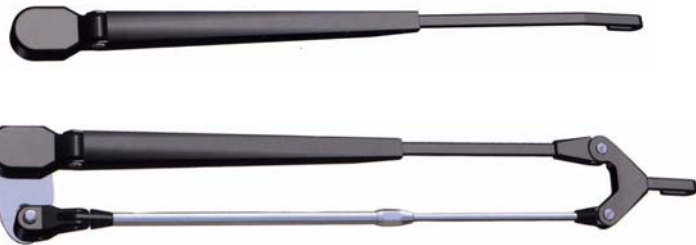
- Adjustable wipe angle capability
- 2 Speed
- Auto park, left or right side
- Suitable for marine applications

All Roca wipers are factory set for a 45 degree wipe angle that can be adjusted in minutes up to 110 degrees.

Specifications

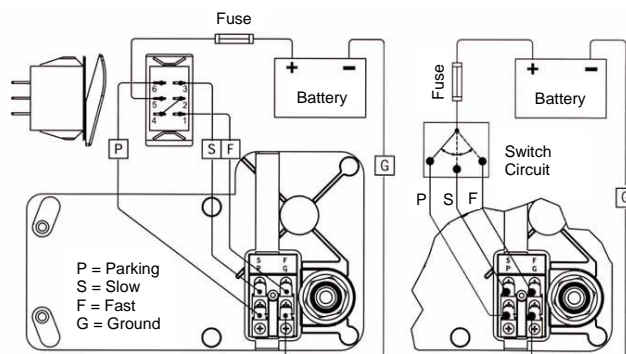
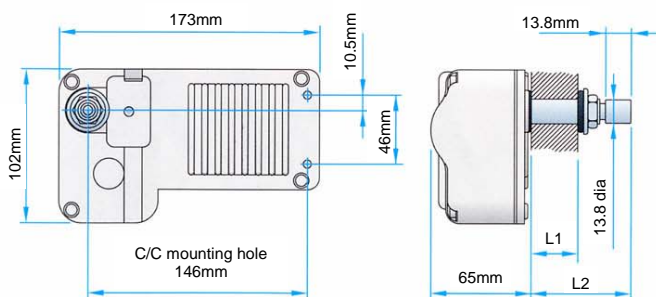
- Voltage - 12, 24
- Weight - approx. 1.6 kg
- Torque - 10Nm
- Two Speeds - slow 35 rpm
- fast 55 rpm

Arms		
Part no.	Length	Type
538617	310—440mm	Pendulum
539818	340—470mm	Pantograph
538624	480—610mm	Pendulum
539824	480—610mm	Pantograph



Motors		
Part No.	Voltage	L1-max
530011	12	16mm
530012	24	16mm
530021	12	42mm
530022	24	42mm

Blades		
Part no.	Length	Color
521114	14"	Black
520916	16"	Black
520520	20"	Black
520522	22"	Black



ROCA + MITSUBA STYLE SMALL SYSTEMS

Roca

Marine Motor, Arm, and Blade Kit

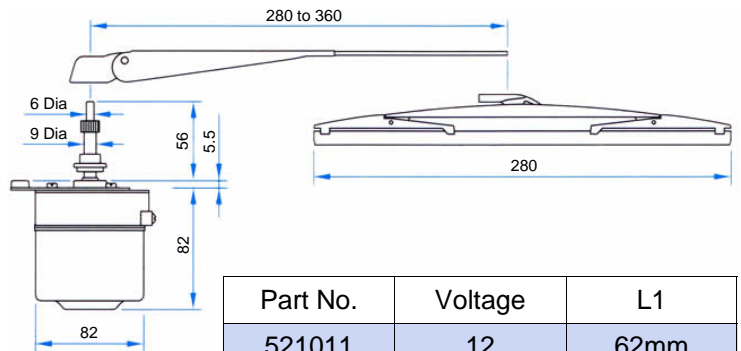
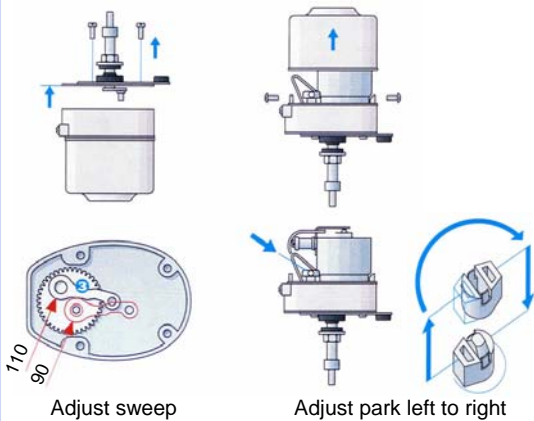
Motor with white powder coated aluminium cover, Stainless Steel shaft, and mounting plate.

Adjustable sweep angle 90 or 110 degrees.

Adjustable left or right self parking.

3 terminal, no switch.

Black coated stainless steel arm easily adjustable from 280mm to 360mm, polymer wiper blade 280mm.



Part No.	Voltage	L1
521011	12	62mm
521012	24	62mm

Mitsuba Style

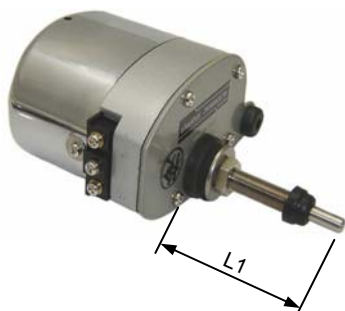
With automatic stopper, 2 terminal, and manual switch.

With reciprocating shaft end 6mm diameter, thread 8.8mm diameter.

Easily shortened shaft to suit thin mounting surfaces.

Sweep angle 110 degrees.

Marine quality version with Stainless Steel shaft available, 3 terminal, no switch.

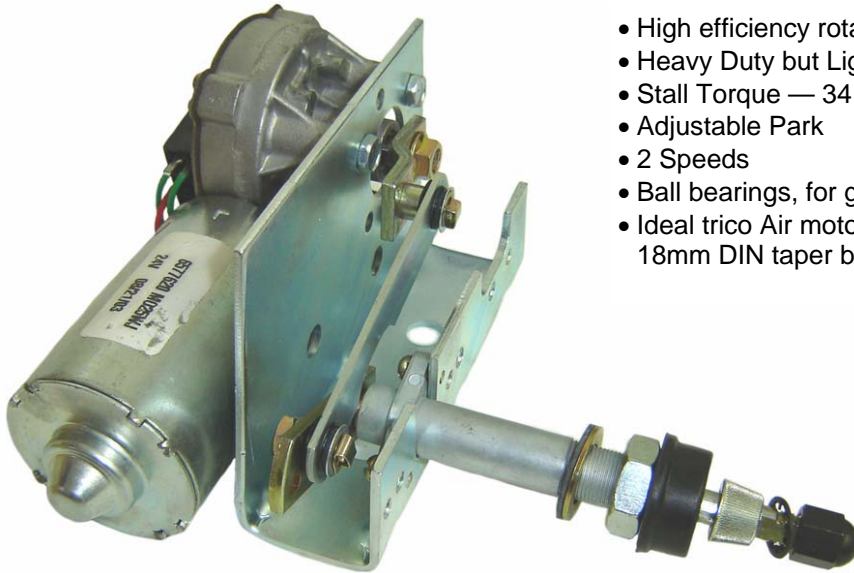


See page 50 for arm and blades to suit

Motors			
Part No.	Voltage	L1	Switch
CL3016	12	65mm	No
CL3010	12	50mm	Yes
CL3013	24	50mm	Yes
CL3012	12	105mm	Yes
CL3015	24	105mm	Yes

UNITED TECHNOLOGIES WWJ WIPER SYSTEMS

Model WWJ



Features

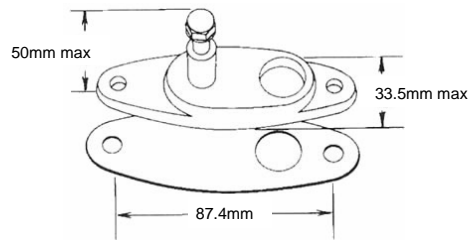
- High efficiency rotating output shaft
- Heavy Duty but Light weight; 1.37 kg
- Stall Torque — 34 Nm
- Adjustable Park
- 2 Speeds
- Ball bearings, for greater efficiency & smooth operation
- Ideal trico Air motor replacement. Same flatted shaft & 18mm DIN taper block

Specifications

- Stall Torque — 34 Nm
- Voltage — 12, 24
- Stall Current — 20 amps
no load — 1.5 amps
- Low speed — approx 36 rpm
- High speed — approx 60 rpm

Pantograph Adaptor kits

Kit Number	Center Distance	Used with Pivot Shaft
KT48519	31.8mm	.668 Heavy duty Black



Black Arms and Blades

Pantograph Arm	Length
5218340	356mm
5218440	406mm
5218540	457mm
5218640	508mm
5218740	559mm
5218840	610mm
5191740	711mm

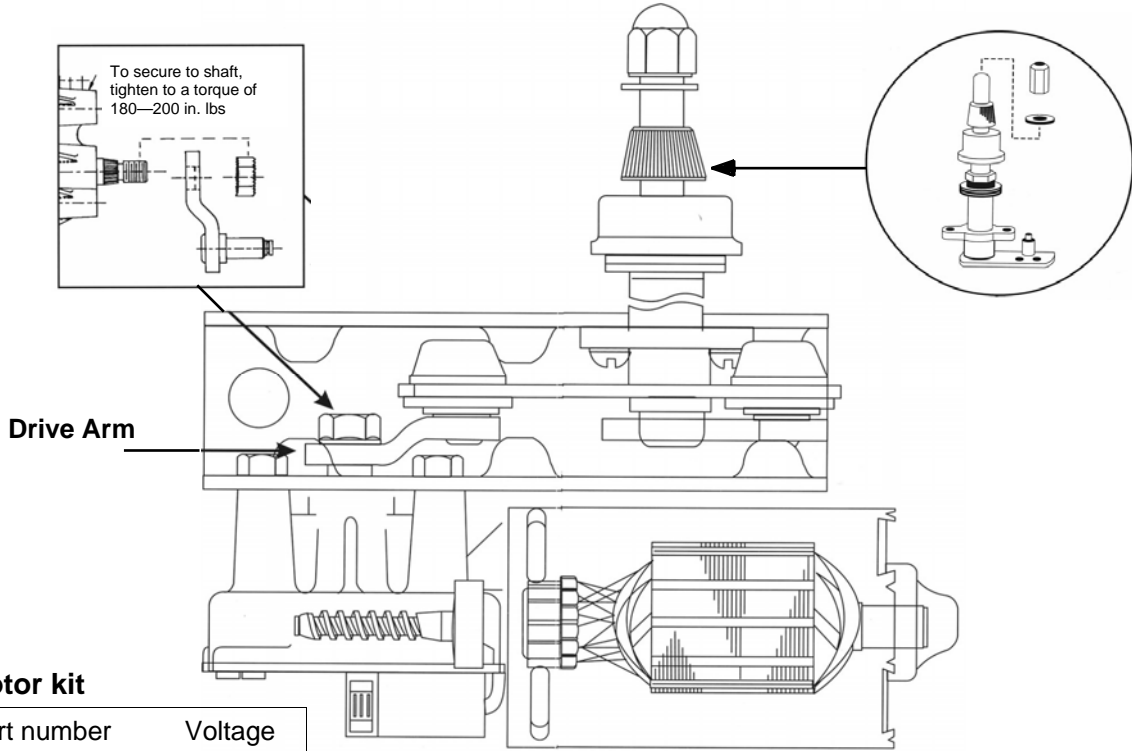
Radial Arm	Length
5217440	356mm
5217540	406mm
5217640	457mm
5217740	508mm
5217840	559mm
5217940	610mm
5218040	660mm

Blade	Length
5216940	357mm
5217040	406mm
5217140	457mm
5217240	508mm
5191640	559mm

For Bosch Blades up to 700mm
See page 20

Kit Number	Description
5219140	Wet Kit includes: hose, nozzle & clips for wet arm application





1. Motor kit

Part number	Voltage
6577520	12
6577620	24

Includes all parts required to make Complete assembly except No.s 2 & 3 (inc: motor, bracket, connecting link, Nuts & bolts)

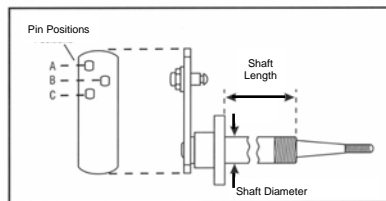
Although this heavy duty system is of unitised design, the major components must be ordered individually to permit the most suitable choice of operation voltages, wipe angles, and pivot shaft lengths.

When ordering a wiper kit for a unitised installation, three numbers are necessary.

1. Motor Kit Number 2. Drive Arm Number 3. Pivot Shaft Number

2. Drive Arm

Part number	Wipe angle
6211140	68
	85
	108
6211240	93
	127



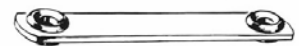
Double Link Drive Arms

6211340 replaces 6211140	<table border="1"> <tr><td>68</td></tr> <tr><td>85</td></tr> <tr><td>108</td></tr> </table>	68	85	108
68				
85				
108				
6211440 replaces 6211240	<table border="1"> <tr><td>93</td></tr> <tr><td>127</td></tr> </table>	93	127	
93				
127				

Adjustable Drive Arm

Part number	Wipe angle
LE6000	10 to 80

Dual Arm Link Assemblies



3. Pivot Shaft

Part number	Length	Description
6271540	25mm	Heavy Duty, .628" Shaft
6271140	32mm	
6271240	51mm	
6271440	76mm	

Part number	Length
LK721014	86mm
LK7210355	483mm
LK721026A	504mm
LK7210357	699mm
LK7210358	572mm

PUMPS AND WINDOW WASHER EQUIPMENT

Washer Bottle Doga Large Capacity 5 litre Reservoir



- 15057500 1 pump 24 volt
- 15057700 2 pump 24 volt
- 15057400 1 pump 12 volt
- 15057600 2 pump 12 volt

Washer Bottle SWF Large Capacity 3.2 Litre Reservoir



- 103.765 Bottle, 1 pump 24v
- 105.070 Bottle kit, 1 pump 24v with 2 x 15030600 jets, 2 x 10050263900 connectors, + hose

Washer Bottle Feipeng Large Capacity 3.5 litre Reservoir



- FPWYG-L Bottle, 1 pump 24v

Washer kit

1.45 litre Reservoir, 12v
PVC tubing, wiring, T piece



W5010

Washer kit

1 litre Reservoir, 12v
PVC tubing, wiring, T piece
mounting bracket, jets



19WWK

Washer kit

3 litre Reservoir, 12v



531161

Washer Bag kit

12v with mounting bracket, tube,
T piece, wash jets, wiring, switch



EWP16

Washer kit

1.7 litre Reservoir, 12v
PVC tubing, wiring, T piece



W5000

Pump Bulkhead Mount



- CL209M 12v light Duty
- CL209N 24v light Duty

Pump Bulkhead Mount



15011800 24v

Pump Bulkhead Mount



- 246075015001 12v gear driven
- 246075010001 24v gear driven

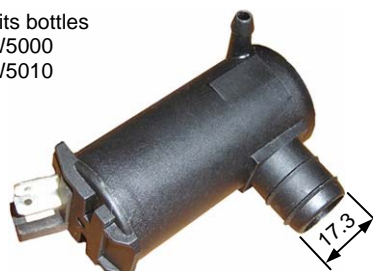
Pump Bottle Mount



- 15029800 12v
- 15029900 24v

Pump Bottle Mount

Fits bottles
W5000
W5010



- CL508M12V 12v
- CL508N24V 24v

Pump Bottle mount

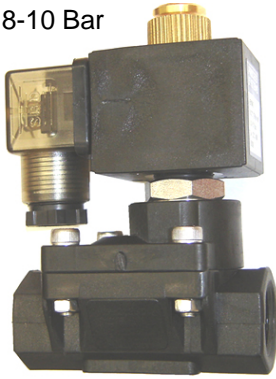


- 201.0002.20.00 12v
 - 201.0002.30.00 24v
- Fits bottles
15057500
15057700
15057400
15057600

PUMPS AND WINDOW WASHER EQUIPMENT

Solenoid Valve
For use with ships own
pressurised supply

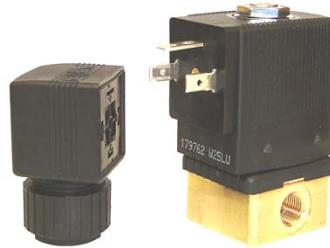
0.8-10 Bar



346-4514-015-12 12 volt
346-4514-015-24 24 volt

Solenoid Valve
For use with ships own
pressurised supply

0-10 Bar



433839 12 volt
134237 24 volt
1/8" BSP inlet, 1/8" BSP outlet

Twin Spray Head



15030600: head fit

Twin Spray Head



80201001: channel fit

Twin Spray Head



80200100: bracket fit

Solenoid 3/16 Tail Barbs



2090808 1/8" BSP 2090404 1/4" BSP

Twin Spray Head



75400 with 1m tubing, Trico Arms

Washer Jet Tube



80200400 / metre 3mm ID
80200500 / metre 4mm ID

Triple Spray Head



120.5007.39.CO: 10 x 4 bar fit

Bulkhead connectors

60250401 10mm
60250402 30mm
60250403 42mm
60250405 82mm



Non - Return Valve



15001400 in line

Tube connector



12937 Straight

Tube connector



15000500 Tee

Bulkhead connector



10050263900 90 degree

Twin Spray nozzle



121.5005.39.CO

Twin Spray nozzle



WP7 plastic with nut

Twin Spray nozzle



WP12 Chrome on brass

Twin Spray nozzle



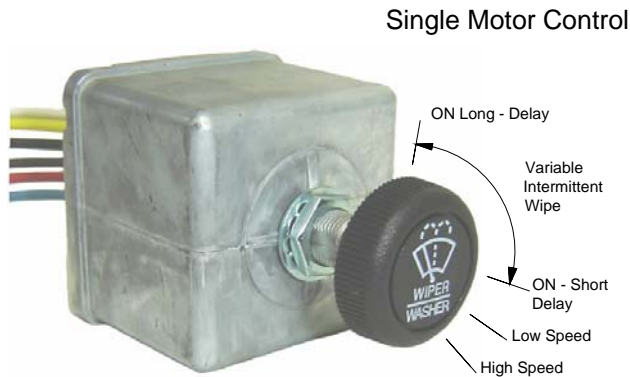
29999 9x3 bar fit

CONTROL SWITCHES AND ACCESSORIES

For use with motors with Dynamic parking eg Bosch, SWF, Doga

Heavy Duty Wiper Switches Variable Intermittent Wipe

Conform to SAE standards J112a for Windshield Wipers and J234 for Windshield Washers



For 12 volt and 24 volt D.C. electrical systems as noted. Negative ground only

4 positions: OFF/PARK, INTERMITTENT, LOW, HIGH.

Push knob to actuate washer pump circuit one to three wipes provided after knob is released.

Black plastic knob with metal insert and set screw, white imprint.

Die cast case 2 7/32" (56.35mm) square, 1 13/16" (46.04mm) long.

Mounting stem 7/16" – 28 thread, 0.45" (11.43mm) long.



10095400
Face plate

- 75600-04 12 volt
- 75602-04 24 volt
- 10166600 24 volt Heavy Duty suit 50 & 80Nm
- 90087010 24 volt Heavy Duty with face plate

Heavy Duty Wiper Switches Two Speed

Single Motor Control

3 positions: OFF, PARK, LOW, HIGH.



Sealed construction including an "O" ring on the shaft

Die cast case 1 5/8" (41.28mm) dia 7/8" (22.22mm) long.

- 75228-03 12 / 24 volt "Push to Wash" feature to actuate washer pump
- Six blade terminals

Heavy Duty Wiper Switches Two Speed

Single Motor Control

3 positions: OFF, PARK, LOW, HIGH.



Sealed construction including an "O" ring on the shaft

Die cast case 1 5/8" (41.28mm) dia 7/8" (22.22mm) long.

- 75228-04 12 / 24 volt without Wash feature
- Five blade terminals

Multi-Function Wiper Switch

Single motor control

A Standard Rocker Size Switch, the Multi-Function Wiper Switch has all the functions of our Standard Rotary Switch



Dual voltage for DC 12v and 24v systems

Three intermittent settings

2 speed functioning

Perfect self parking "dynamic brake"

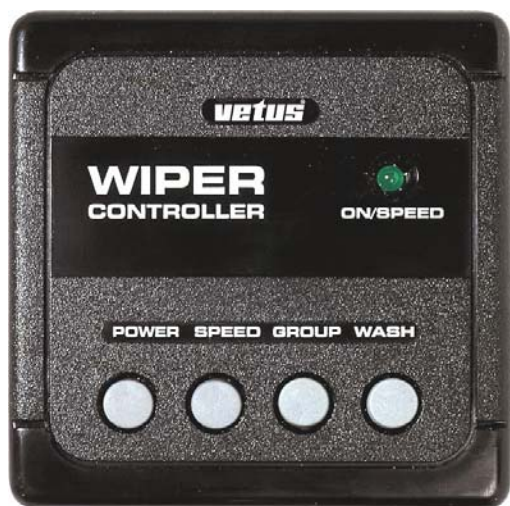
Wash / Wipe program

Dimmer input

- CT41DBHITA 12 - 24 volt D.C.

For use with motors without Dynamic parking eg Roca, AFI, Vetus, United Tech

Control Panel



If two or three wiper motors are installed, this control panel enables some, or all of the wipers to operate synchronously at normal speed.

At high speed each wiper will retain it's own wiping pattern. An interval wipe feature, with three different settings and a wash / wipe function are also built in.

The panel is suitable for 12 and 24 volt installations and for wiper motors with a power consumption up to 10A maximum each.

Dimensions: 94 x 94 x 15mm high, with a built in depth of 30mm.

RW PANEL

Heavy Duty Wiper Switches Two Speed

Single Motor Control



3 positions: OFF, PARK, LOW, HIGH.

Sealed construction including an "O" ring on the shaft.

Plated steel case
1 3/8" (34.93mm) diameter,
1 3/8" (22.22mm) long.

"Push to Wash" feature to actuate washer pump

Internal six amp circuit breaker.

75221-09 12 / 24 volt
Five blade terminals

Heavy Duty Marine Switch

For 6 – 36 volt, D.C. electrical systems

Brass case, mounting stem, terminals and mounting hardware

Mounting stem 3/8" –32 thread, 1 1/4" (31.75mm) long

Mount in panels to 3/4" (19.05mm) thick.



M-628

Wiper Switch Two Speed

Single Motor Control



3 positions: OFF, PARK, LOW, HIGH.

Plastic case
30 x 30 x 23mm long

HDMSW 12 / 24 volt
Four blade terminals

Wiper Switch Carling Rocker One or Two speed

Single Motor Control



SW-NF/DP momentary on/off
SW-ON/OFF/DP on/off
SW-N/F/N/ DP on/off/on

ACT-WP actuator - wiper
ACT-WH actuator - washer

Use with change over relay for Bosch type motors to park

CONTROL PANELS AND ACCESSORIES

Synchronised Control Panel variable intermittent



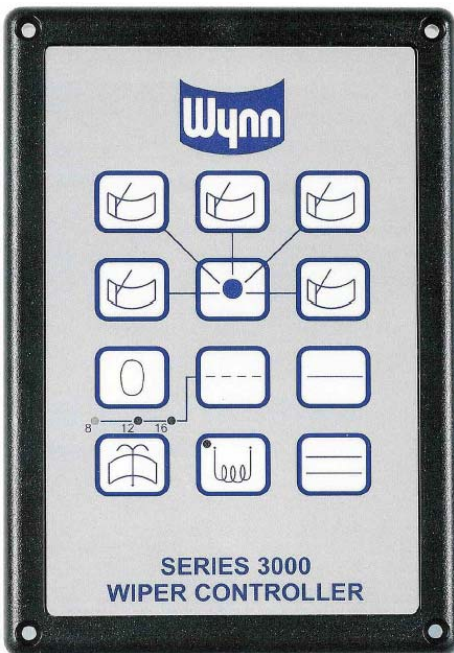
- Solve your windscreen problems in a very easy way
- Coordinate the wiper movements synchronising brushes, having the same harmonious effect you get in cars.
- Drive all together (General ON/OFF) or one (Single ON/OFF for each wiper) Automatic washing program.
- Versions from 3—5 wipers in a single electronic unit,
- 12 or 24 volt.
- Fit for any kind of motors. Motors are driven by a relay box connected to the electronic unit by a simple multipole cable.
- A robust polyester front mounted on a 3mm aluminium
- protects the unit from water sprinkle and dust.



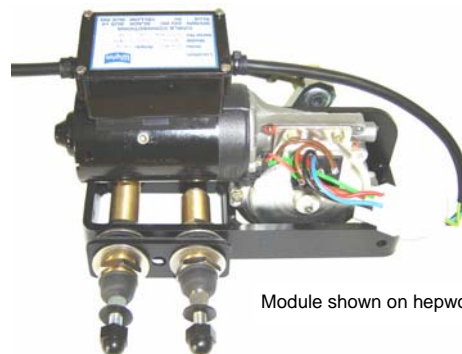
- | | |
|-------------------------|-------------------------------|
| CT13 3 wiper controller | CT23 3 wiper controller 2 Spd |
| CT14 4 wiper controller | CT24 4 wiper controller 2 Spd |
| CT15 5 wiper controller | CT25 5 wiper controller 2 Spd |

Each element of the control panel undergoes extensive testing and measurement to comply with EMC regulations, guaranteeing that they do not cause electrical interference to neighbouring equipment.

Network Control System 3000 Series Controller



- Individual or group control of the wipers
- Fast & slow speed operation
- Intermittent mode with 3 delay timings
- Heater control switch
- Wash wipe / air purge facility gives synchronisation of wipe, water delivery and line purging
- Synchronised group wiping in the intermittent mode
- Network uses 2-wire control technology
- 24 volt
- Different electrical supplies and voltages can be controlled in the same system
- Modules can be located adjacent to the wipers to minimise wiring runs
- Network can be run in an open or closed ring circuit



Module shown on hepworth motor

- | |
|------------------------------|
| WC-3000-3 3 wiper controller |
| WC-3000-4 4 wiper controller |
| WC-3000-5 5 wiper controller |

The series 3000 Network Control System is modular which gives you the flexibility to manage a fully functional window wiper system with integral wash and air purge. The system also controls wiper and window heaters

Network Control System 6000 Series Controller

Simple control of large systems

More than one keypad can be integrated into any operational system

Wipers controlled locally or from master control

Different types of wipers with variations in voltage controlled by one system

Synchronization of low voltage wipers,
(pantograph / pendulum) in low and high speeds

Reduced installation costs

6500 Series Control Panels

The system can be controlled with a rotary switch, Carling rocker switch, touch screen, the std 6500 keypad or a customised keypad.

Available with a maximum of two slave controllers per master and remote switches per controller.

6100 Series 115v AC and 230v AC 1 Phase Motor Modules

- Ships power supply 115v AC or 230v AC single phase
- Straight Line Wipers Type C / D and Clear View Screens Type C350
- Motor types GA65, GA65-L, GA64, GA64-L

The standard module is configured as a single motor module with two additional outputs e.g. wash/purge, wash/heat. The extended motor module has four additional outputs (extra PCB). The additional outputs (extra PCB) can be of different voltage to the standard PCB.

It is also possible to choose a module as an auxiliary controller. For example as a separate air/purge module or window heater module with either 3 or 5 outputs. (the heater output is 8 amps; if the current is higher an external contactor is required)

6200 Series 24v DC Motor Modules

- Ships power supply 24v DC
- Pantograph, Pendulum, or Straight Line Wipers
- Motor types 30Nm, 50Nm, 80Nm, 110Nm, 1800 and 1801 (pend & panto, two speed), PM3 and PM5 (slw single speed)

The standard module has two outputs;

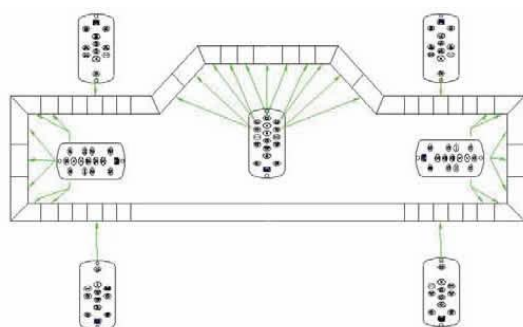
1 Motor Control output

2 One extra hardware (dipswitches) output configurable for wash/purge/wiper heater/window heater. (the heater output is 4 amps; if the current is higher an external contactor is required)

6300 Series 115v AC and 230v AC 3 Phase Motor Modules

- Ships power supply 115v AC or 230v AC three phase
- Straight Line Wipers Type C / D and Clear View Screens Type C350
- Motor types GA61, GA61-IP-23, GA63, GA62D, GA68
- Pantograph / Pendulum Wipers 70Nm and 100Nm

The standard module has one output, motor control, only. The extended module has two extra outputs (extraPCB). (the heater output is 8 amps; if the current is higher an external contactor is required)



Flexibility

Large bridges can be divided into zones, each of which may be configured into groups. Different electrical supplies and voltages can be controlled in the same system, and additional wipers and equipment can be added at a later date with no complicated design change.

The series 6000 Control System consists of modules that may be distributed around the bridge in close proximity to each wiper. A single power cable to the module can provide a wiper, wash and air purge, or wiper, wash and heat functionality. For large systems requiring multiple functions, a separate wash/purge/screen heat module is available.

The system is controlled from a conveniently positioned control keypad, available as Single Speed or Two Speed, Master group control, 1 to 5 groups. All groups Single wipe, 3 intermittent wipers, wash, case heat, and window heat

ASSORTED MOTORS

Bosch 30Nm



65008900

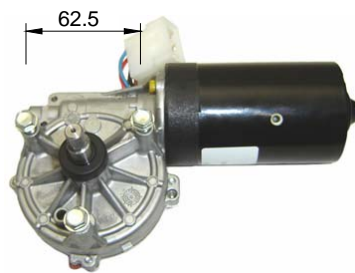
24 volt, 2 speed + park, IER
M8 -10 taper shaft,

65008800

12 volt, 2 speed + park, IER
9.3 shaft,

699397236020 Kenworth long nose
12 volt, 2 speed + park,
M8-10 taper shaft, 3 x M6 mount

Bosch 50Nm



100865/1

24 volt, 2 speed + park
9.3 shaft

65008600

24 volt, 2 speed + park, IER
9.3 shaft

65008500

12 volt, 2 speed + park, IER
M8, 10-12 taper shaft, 3 x M6 mnt

Bosch 80Nm



101149/1

24 volt, 2 speed + park
13.26 shaft

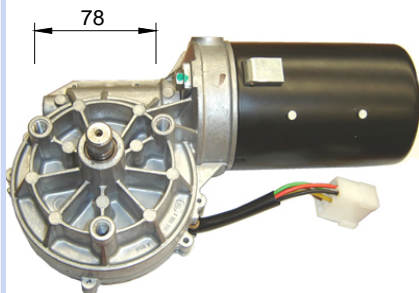
100712/2

24 volt, 2 speed + park, IER
13.26 shaft

100714/2

12 volt, 2 speed + park, IER
13.26 shaft, 3 x M8 mount

Bosch 110Nm

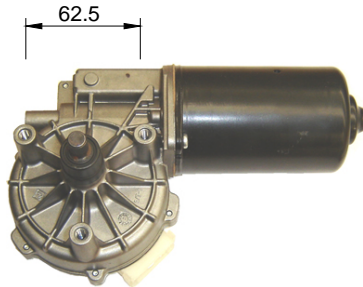


100726/1

100726/2 IER

24 volt, 2 speed + park,
15.8 shaft, 3 x M10 mount

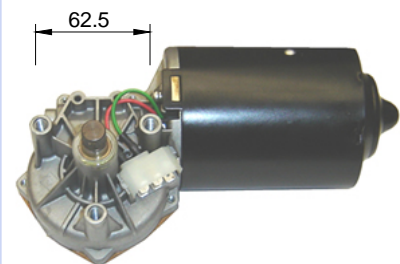
SWF 50Nm



403.873

24 volt, 2 speed + park
9.3 shaft, 3 x M6 mount

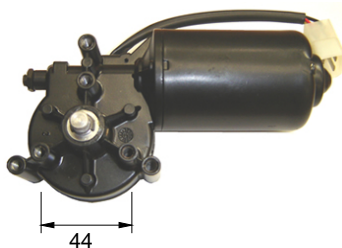
SWF 65Nm



403.195

24 volt, 2 speed + park
13.26 shaft, 3 x M8 mount

Doga 25Nm



111.3717.20.00

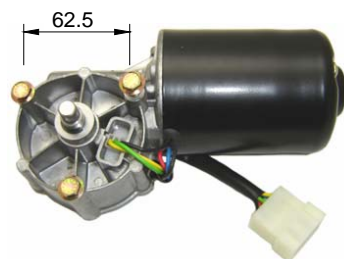
12 volt, 2 speed + park

111.3717.30.00

24 volt, 2 speed + park

9.3 shaft, 3 x M6 mount

Doga 50Nm



119.3723.30.00

24 volt, 2 speed + park

9.3 shaft, 3 x M6mount

Doga 130Nm



259.3705.2B.04

12 volt, 2 speed + park

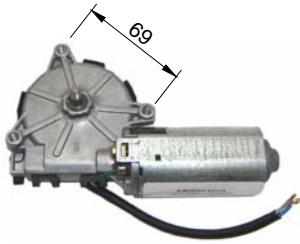
259.3705.3B.04

24 volt, 2 speed + park

13.26 shaft, 3 x M8 mount

ASSORTED MOTORS

Bosch 2Nm



101250-6
12 volt, 1 speed + park, IER

101250-7
24 volt, 1 speed + park, IER
M6 -8 taper shaft

Parvalux

With drive for Hepworth / Wynn
Straightline systems



AC 100, 115, 230 volt
DC 24 volt

Indent only call for details

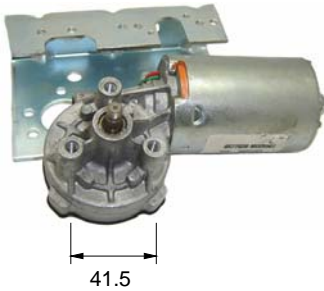
Prestlite

Suit International S Line



3262249-R91
12 volt,
With bracket and crank

United Technologies / AM

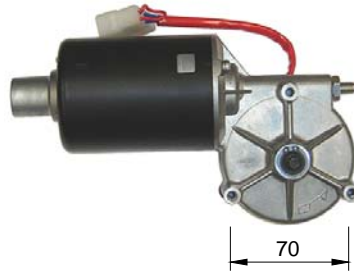


6577520
12 volt, 2 speed + park

6577620
24 volt, 2 speed + park
Taper shaft, With bracket

Asmo / Denso

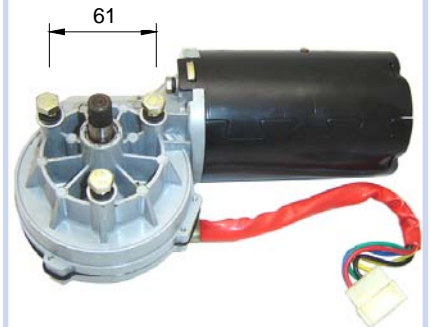
For Japanese Coaches with
linking cable between motors.
Self park through RH motor



859100-6142 Hino RH, 5 pin
859100-6132 Hino LH, 5 pin
849100-0964 Mitsi RH, 6 pin
849100-0973 Mitsi LH, 5 pin
M8-12 taper shaft, 3 x M8 mount

Feipeng 125W

Designline coarse spline

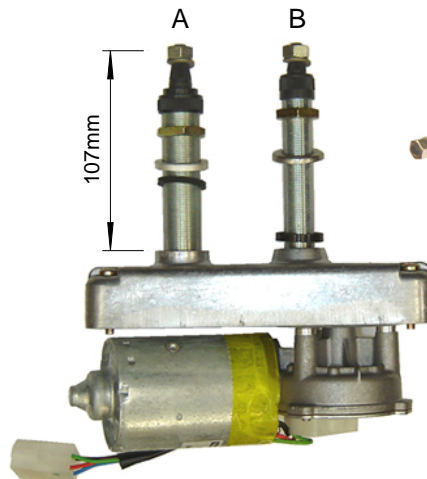


SD2733A
24 volt, 2 speed + park
13.26 shaft 3 x M8 mount

VALEO (SWF)

Voltage	24v
Overall spindle length	107mm
Liner diameter (A)	20mm
Spindle diameter (A)	12mm
Liner diameter (B)	16mm
Spindle diameter (B)	10mm
Thread (A&B)	M8
Spindle cr—cr	60mm
Sweep Angle	75 degrees
Box width	95mm
Box height	190mm

107.862 Park to Left (RHS)
107.854 Park to Right (LHS)



Use with SWF
103.980 Arm 700mm
130.600 Blade 600mm
130.701 Blade 700mm

BLADES BOSCH

Curved Screen Wiper Blades

Bosch Heavy duty, curved screen wiper blades are built to withstand heavy commercial and marine usage and are available in a range of sizes up to 1000mm.

Renowned Bosch Quality translates into superb wiper performance throughout an extended service life. Bosch windshield wipers rely on innovative technology for maximum visibility and optimal safety.

Note: When ordering, suffix Part number with length required in inches. e.g. B140-39



Blade	Length	Bolt Diameter	Blade Block
B140-14, 16, 18, 20, 22	340, 400, 450, 500, 550	4.8	14



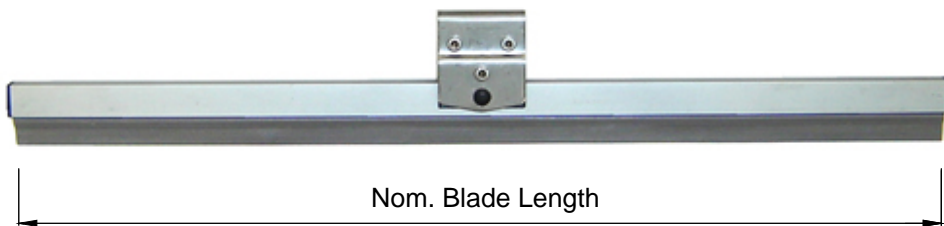
Blade	Length	Bolt Diameter	Blade Clip
B140-24, 26, 28	600, 650, 700	4.8	14

25 & 26mm Spacer with
8mm clip bolt adaptor



Blade	Length	Bolt Diameter	Blade Clip
B140-32, 36, 39	800, 900, 1000	6	20, 21, 25, 26

Flat Screen Wiper Blades



Blade	Length	Blade Clip
1688-001-	450, 500, 550, 600, 650, 700	Saddle for Wynn straight-line arm

BLADES SWF

Curved Screen Wiper Blades

SWF Heavy duty, curved screen wiper blades are built to withstand heavy commercial usage and are available in a range of sizes up to 1000mm.

16mm Blade block 9mm x 4mm & 12mm x 4mm Hook adaptors



Blade	Length	Bolt Diameter	Blade Block
130.600	600	6	16
130.701	700	6	16

Spacer with 8mm clip bolt adaptor



Blade	Length	Bolt Diameter	Blade Clip
130.801	800	6	15,16,26



Blade	Length	Bolt Diameter	Blade Clip
106.277	1000	8	20,26

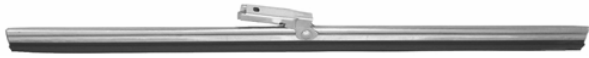
Refills

Refill	Brand	Back	Length	Claw Width
TRP1000	Trico / Tru Vision	Plastic	1000mm	8mm & 9.5mm
TTR40	Tridon	Plastic	1016mm	8mm & 12mm
TMK28	Tridon	Plastic	710mm	7.5mm
MRS28	Tridon	Metal snap off	710mm	7.5mm
69BMN610	Bosch	Metal snap off	610mm	6mm
80262200	Bosch	Rubber only	1000mm	9.5mm
80262201	Bosch	Rubber only	900mm	9.5mm
80262202	Bosch	Rubber only	800mm	9.5mm
115.756	SWF	Rubber only	800mm	7.5mm

CLASSIC CAR SMALL ARMS / BLADES

Flat Blade

6mm Bayonet fit 10" Stainless Steel



SS10FBN

Flat Blade

5mm Spoon fit 10" Stainless Steel



SS10FSP

Curved Blade

6mm Bayonet fit 10" & 11" Stainless Steel



SSWB10
SSWB11

Curved Blade

5mm Spoon fit 10" & 12" Stainless Steel



TE10310
TE10312

Curved Blade

7mm Bayonet fit 10" & 12" Stainless Steel



SSWB10-7
SSWB12-7

Curved Blade

5mm Bayonet fit 12" & 14" Stainless Steel



TE266-12
TE266-14

Mini Arm

6 x 2mm Bayonet end, 11" Stainless Steel
Fits Std 13.6mm straight spline, Right or Left crank



SSWA11L
SSWA11R
Left crank shown

Flat Blade

Hook fit



21-303 255mm
21-305 350mm

Universal Adjustable arm

7mm Bayonet fit, left or right crank, Adjustable to 380mm
Fits Std 16mm straight spline



Simply cut off unwanted end

TC202

Adjustable Arm

Slotted end for Hook blade,
Fits 6mm straight shaft
Adjustable 240—380mm



21-304

Universal Adjustable arm

5mm Spoon & Bayonet fit, left or right crank, Adjustable to 360mm
Fits Std 13.6mm straight spline
Comes with adaptor for 6mm straight shaft



Simply cut off unwanted end

A199 Knurled Driver

TC203



Knurled Driver

Adapts 6 or 8mm straight shaft to 13.6mm spline



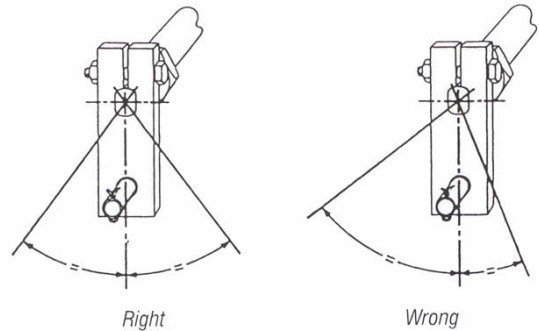
A199 6mm
02465 8mm

As we have no influence on the installation of complete windscreen wiper systems, we are unable to accept liability for installation errors.

The composition and installation of freely selected wiper systems lie within the sole responsibility of the customer. We are therefore unable to accept liability.

Most wiper systems have a park setting, which permits them to operate in the parked position if connected to the vessels electrical system, even if the wiper is switched off. **For this reason, at this point in time, neither may the wiper arm be mounted, nor may any person have hands, fingers etc anywhere near the wiper system.** Even small wiper systems can neither be braked nor stopped by hand.

Never reach into the area of the rod linkage when the system is running!

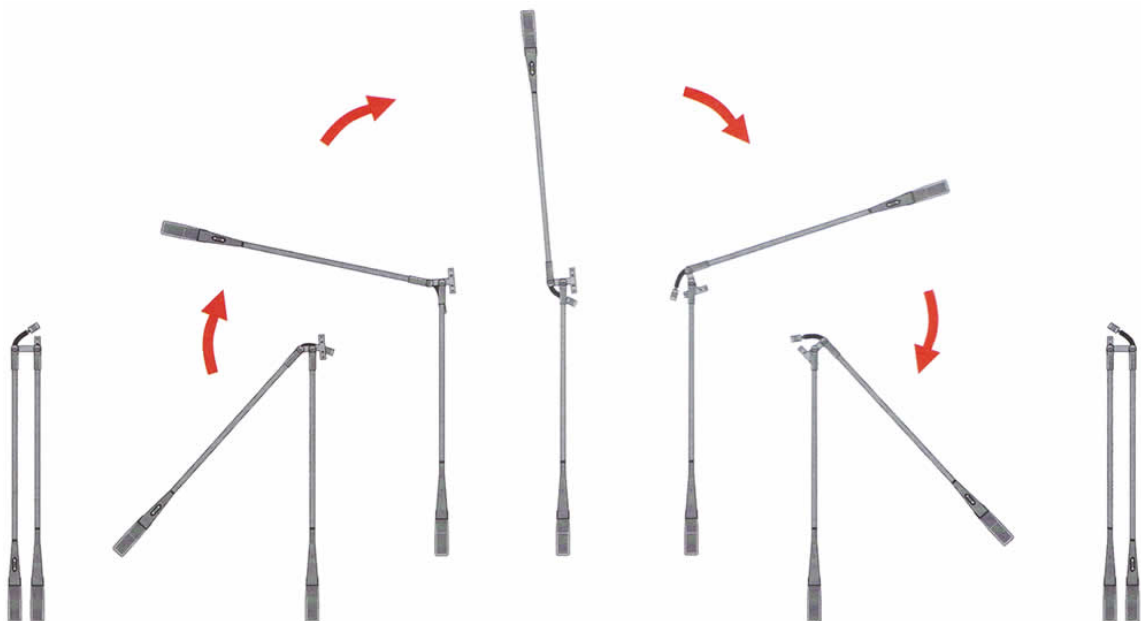


When putting into service (ie. when connecting the wiper motor to the vessels electrical system, even if the wiper switch is in the 0 position), never leave any loose items such as screwdrivers in the area of the wiper system, as flying objects could lead to injury.

When planning a system, make sure there are no obstructing elements (such as water tanks, ventilation pipes, blowers, etc.) located where you wish to install the motor, linkages, spindles.

The wiper spindles must be fixed to the bulkhead, ensuring sufficient rigidity at the mounting point. If necessary, the cab wall may require appropriate reinforcement.

Mount wiper arms in the hinged-up position.



NOTE: Pantograph arms can be either RIGHT HAND or LEFT HAND. To change an arm set to the opposite hand, rotate the slave arm over the top of the main arm as illustrated.

Screen Wipers Ltd

2L Edinburgh St, Penrose, Auckland, 1061
Email: rob@sws.co.nz Fax: (09) 634 9038 Ph: (09) 634 9035