

# E190-E2 COLLINS

*NACELLE TOOLING CATALOG*

**NACELLE**

**TOOLING** by

DEDIENNE AEROSPACE



# E190-E2 GSE TOOLS

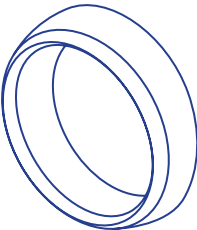
We have the capability to provide you all recommended GSE's based on the Aircraft Maintenance Manual (AMM) for your EIS (Entry-into-Service) program, and all your maintenance operations.

Thanks to our Tooling recommendation team, we can propose you a tailored tooling list for your maintenance workscope.



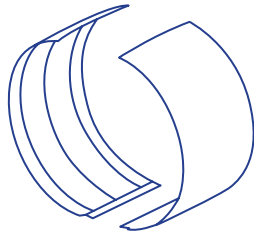
CATEGORY	PART NUMBER	NAME	MINIMAL QT FOR EIS
 INLET COWL	347-1100-1GSE	Inlet Cowl Sling	1
	347-1100-2GSE	Inlet Cowl Dolly	1
	347-1100-3GSE	Inlet Protective Rug	0
	347-1100-4GSE	Inlet Cowl Cover	2
 FAN COWLS	347-2000-1GSE	Fan Cowl Sling	1
	347-2000-2GSE	Fan Cowl Dolly	2
	347-2000-3GSE	Fan Cowl Vent Plug	0
	347-2000-5GSE	Fan Cowl Hinge Bolt Thread Protectors	1
 THRUST REVERSER	347-3001-1GSE	Thrust Reverser Sling	1
	347-3001-2GSE	Thrust Reverser Dolly	2
	347-3001-3GSE	Thrust Reverser Hinge Bolt Thread Protector	0
	347-3001-5GSE	Thrust Reverser C-Duct Plug	2
	347-3001-7GSE	Thrust Reverser Hand Pump Dos	1
	347-3001-11GSE	Thrust Reverser Unlock Pins	0
	347-3001-14GSE	Thrust Reverser Prd Torque Adaptor	1
 NOZZLE & CENTER BODY	347-3501-2GSE	Translating Sleeve Dolly	1
	347-4100-1GSE	Exhaust Nozzle Cover	2
 ENGINE MOUNT	347-4100-4GSE	Exhaust Nozzle Lifting Aid	1
	347-6000-1GSE	Engine Mount Cart	0
	347-6001-2GSE	Forward Engine Mount Sling	1
	347-6501-1GSE	Aft Engine Mount Sling	1

CONTENT



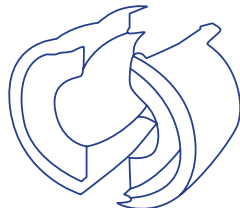
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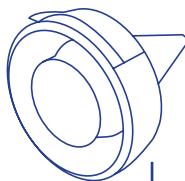
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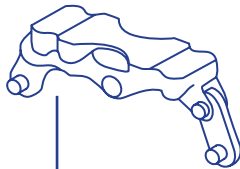
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- > Thrust Reverser PRD Torque Adaptor ..... p.14
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INLET COWL SLING

DESCRIPTION – USE

The Inlet Cowl Sling is used to lift and move the entire E190-E2 Inlet Assy.

CAUTION

The Inlet Cowl Sling is used to install or remove the Inlet Cowl from the Engine. This tool has a feature that allows the tool operator to rotate the Inlet Cowl and eases the installation on the Engine or placement on the Dolly.

TEST

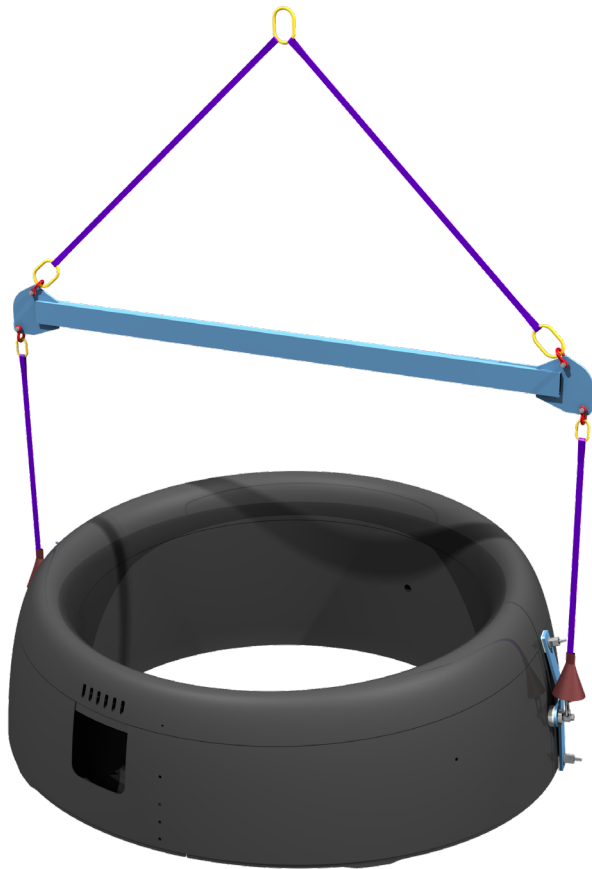
Dedienne Aerospace has regional facilities to aid in the required annual testing and recertification.

DIMENSIONS

2700 x 450 x 450 mm  
[107 x 18 x 18 in]

WEIGHT

82 kg [181 lbs]



The pictures, measurements, and weights shall be used only as an indication.



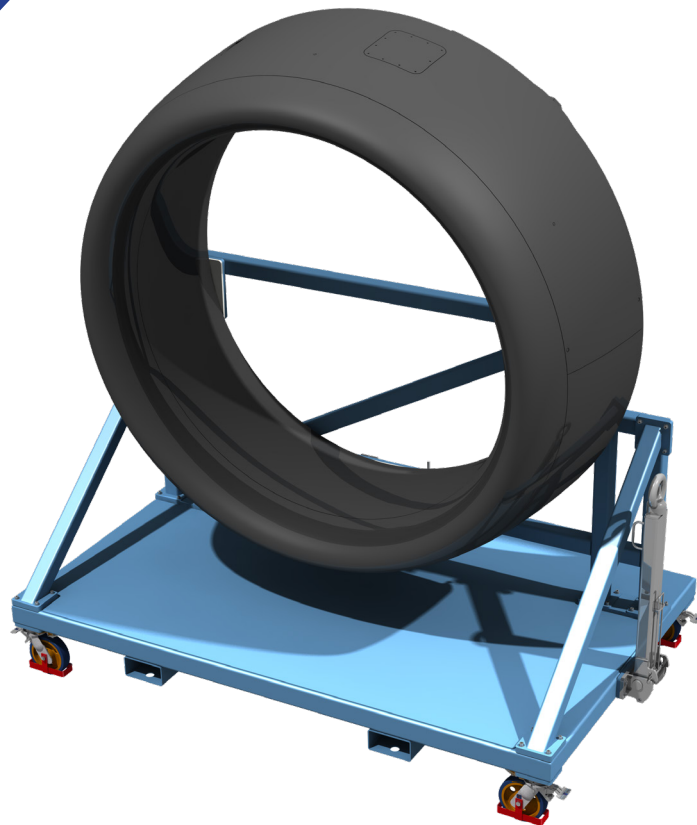
## INLET COWL DOLLY

### DESCRIPTION - USE

This tool is used during the maintenance and transportation of inlet cowl.

### CAUTION

This tool has been validated for the maintenance of the E190-E2 Inlet Cowl. If the Inlet Cowl is moved or repaired on another tool and there is damage, the insurance company may not cover the damage.



### DIMENSIONS

2800 x 1650 x 1700 mm  
[111 x 65 x 67 in]



### WEIGHT

900 kg [1,984 lbs]

The pictures, measurements, and weights shall be used only as an indication.

5

347-1100-2GSE



A220 GSE TOOLS



## INLET PROTECTIVE RUG

### DESCRIPTION - USE

Tool is used as a Protective Mat on the Inlet inner surface during Maintenance, Removal or Installation activity on the Inlet.



### DIMENSIONS

850 x 400 x 200 mm  
[34 x 16 x 8 in]



### WEIGHT

10 kg [23 lbs]

The pictures, measurements, and weights shall be used only as an indication.

6

347-1100-3GSE

A220 GSE TOOLS



## INLET COWL COVER

### DESCRIPTION - USE

The Inlet Cowl Cover is used to protect inlet from foreign objects during parking and mooring.

### CAUTION

Without the Inlet Cowl Cover, water, dust or wind can go inside the Engine.

- > Water retention: accelerates corrosion.
- > Dust: the engine could be damaged during the ignition.
- > Wind: allows blade rotation which may cause damage.

The engine warranty may be void if the Covers are not used properly under the required conditions and there is damage to the engine.

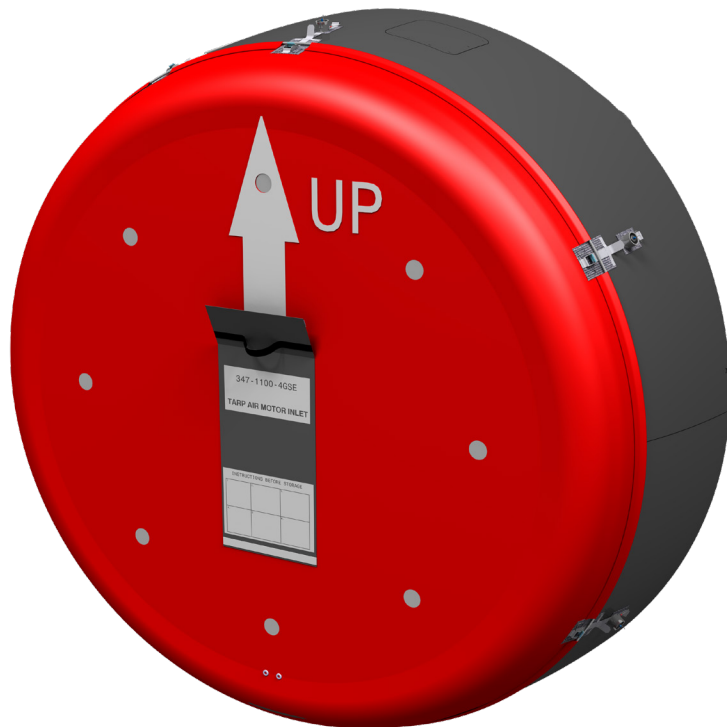
### DIMENSIONS

500 x 400 x 400 mm  
[20 x 16 x 16 in]



### WEIGHT

3 kg [7 lbs]



347-1100-4GSE

EIS

A220 GSE TOOLS



## THRUST REVERSER SLING - LH/RH

### DESCRIPTION - USE

The Thrust Reverser Sling is used to pick the Thrust Reverser Engineering Assembly (Both LH/RH) from the ACFT / Shipping container and place the same on the Thrust Reverser Dolly for maintenance purpose. The Manual Hoist connected to the Latch beam location Via the Nylon Strap can be operated to tilt the TR Engineering assembly at various angles during Installation and removal from ACFT on to the dolly and vise-versa.

### CAUTION

This tool is the only tool validated to lift the E190-E2 Thrust Reverser. If the Thrust Reverser is lifted using another tool, and there is damage, the insurance may not cover the damage.

### TEST

Dedienne Aerospace has regional facilities to aid in the required annual testing and recertification.

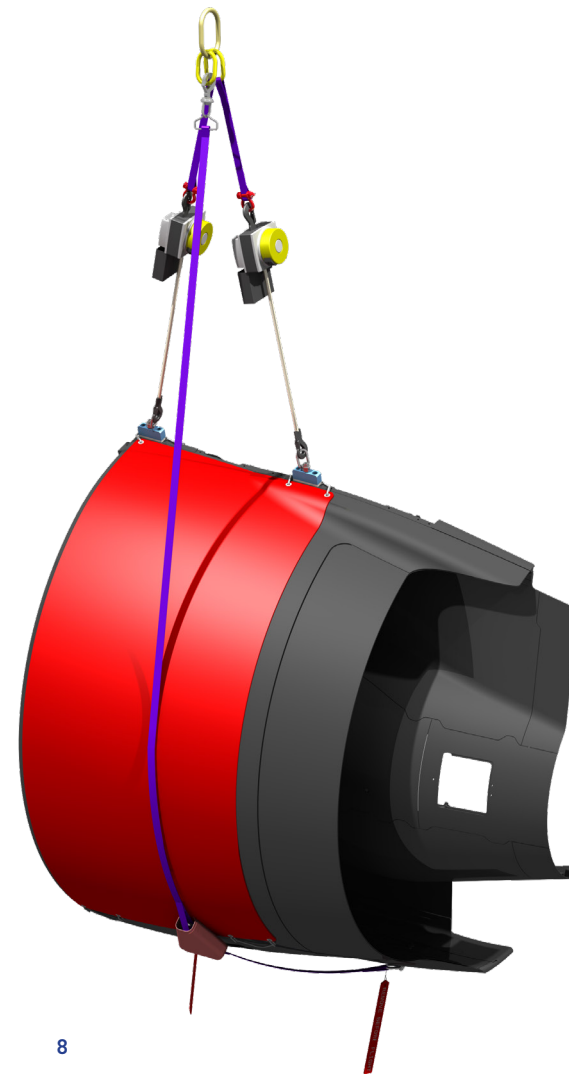
### DIMENSIONS

1250 x 1400 x 550 mm  
[50 x 56 x 22 in]



### WEIGHT

150 kg [331 lbs]



347-3001-1GSE

EIS

A220 GSE TOOLS



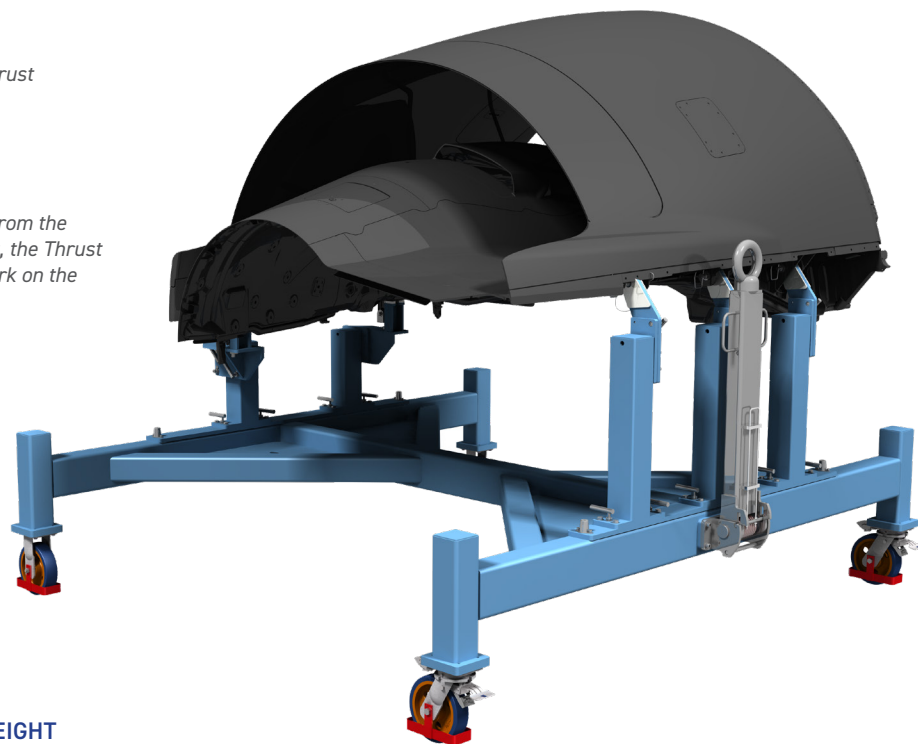
## THRUST REVERSER TOWABLE DOLLY - LH/RH

### DESCRIPTION - USE

This Tool is used to carry a LH or RH Thrust Reverser.

### CAUTION

When the Thrust Reverser is removed from the aircraft using the Thrust Reverser Sling, the Thrust Reverser Dolly is needed to store or work on the Thrust Reverser.



**DIMENSIONS**  
2600 x 2400 x 1000 mm  
[103 x 95 x 40 in]

**WEIGHT**  
750 kg [1,653 lns]

The pictures, measurements, and weights shall be used only as an indication.

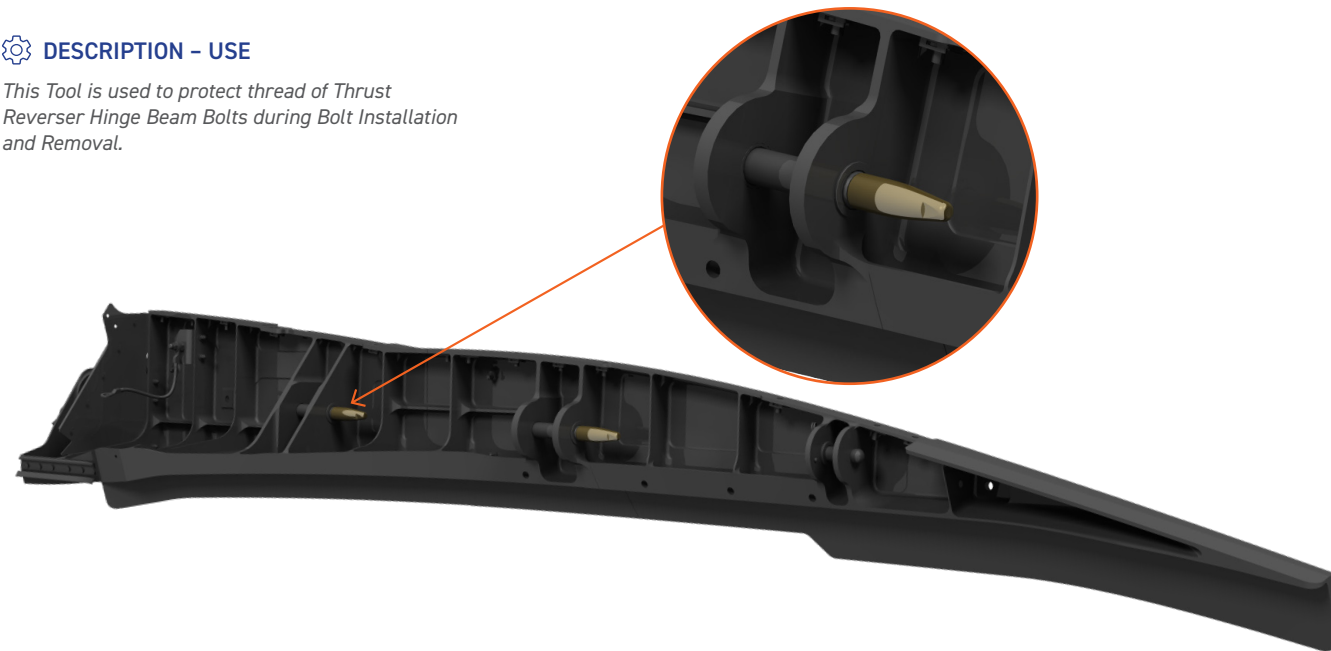
347-3001-2GSE



## THRUST REVERSER BEAM BOLT THREAD PROTECTOR

### DESCRIPTION - USE

This Tool is used to protect thread of Thrust Reverser Hinge Beam Bolts during Bolt Installation and Removal.



**DIMENSIONS**  
250 x 250 x 150 mm  
[10 x 10 x 6 in]

**WEIGHT**  
1,5 kg [4 lbs]

The pictures, measurements, and weights shall be used only as an indication.

347-3001-3GSE





## THRUST REVERSER PLUG

### DESCRIPTION - USE

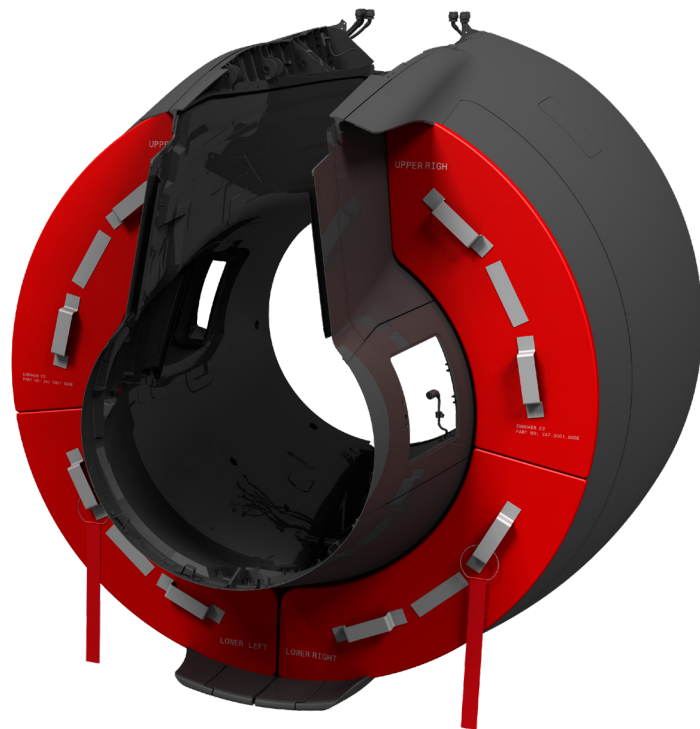
This tool is used to cover the bypass duct between the Translating Sleeve and Inner Fixed Structure (LH and RH).

### CAUTION

Without the Inlet Cowl Cover, water, dust or wind can go inside the Engine.

- > Water retention: accelerates corrosion.
- > Dust: the engine could be damaged during the ignition.
- > Wind: allows blade rotation which may cause damage.

The engine warranty may be void if the Covers are not used properly under the required conditions and there is damage to the engine.



### DIMENSIONS

1400 x 600 x 450 mm  
[56 x 24 x 18 in]

### WEIGHT

40 kg [89 lbs]

The pictures, measurements, and weights shall be used only as an indication.

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347-3001-5GSE



A220 GSE TOOLS



## HYDRAULIC HAND PUMP FOR DOS

### DESCRIPTION - USE

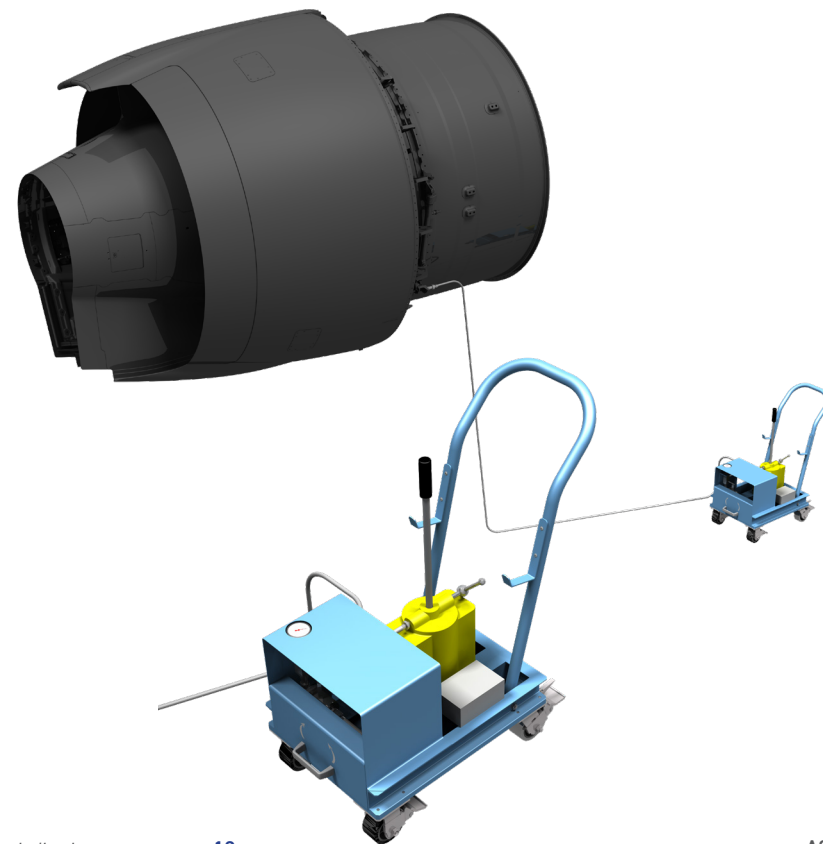
This tool is used for manual actuation of Thrust Reverser Door Actuation System.

### CAUTION

The Thrust Reverser Hydraulic Opening System or pump has been designed for use on the E190-E2. If another pump is used to open the C-Ducts and there is damage, the damage may not be covered by the insurance.

### TEST

Dedienne Aerospace has regional facilities to aid in the required annual testing and recertification.



### DIMENSIONS

1050 x 700 x 1350 mm  
[42 x 28 x 54 in]

### WEIGHT

160 kg [353 lbs]

The pictures, measurements, and weights shall be used only as an indication.

12

347-3001-7GSE



A220 GSE TOOLS

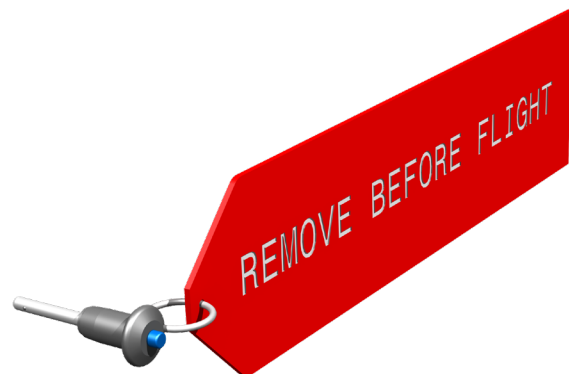




## THRUST REVERSER UNLOCK PINS LH/RH

### DESCRIPTION - USE

These Pins are used to unlock TRAS Actuators and Track Lock for both LH & RH Nacelles during maintenance.



**DIMENSIONS**  
500 x 300 x 300 mm  
[20 x 12 x 12 in]

**WEIGHT**  
3 kg [7 lbs]

The pictures, measurements, and weights shall be used only as an indication.

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347-3001-11GSE

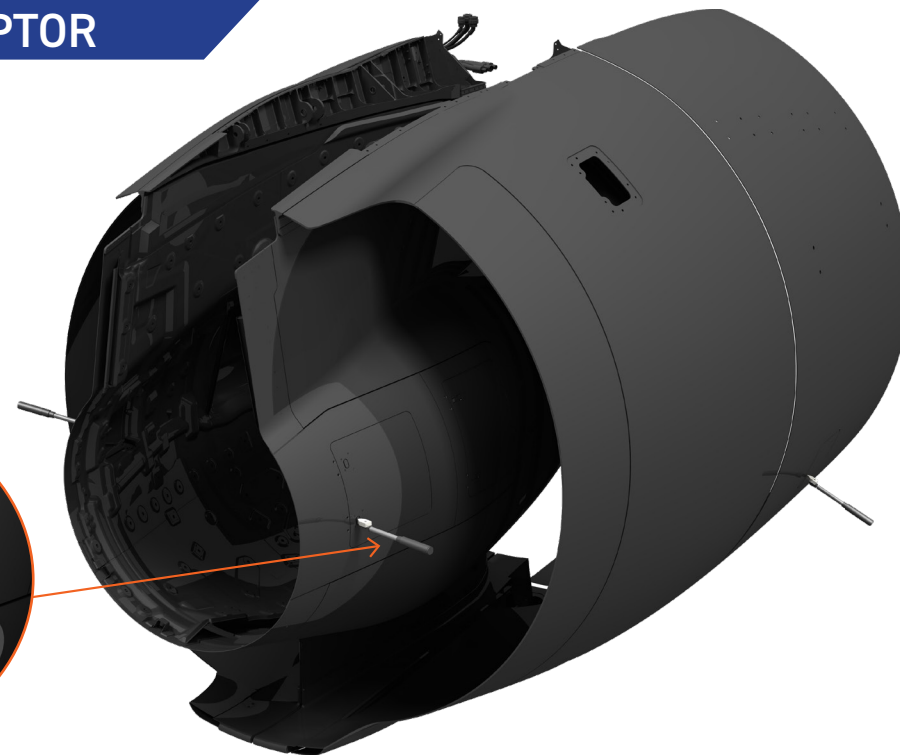
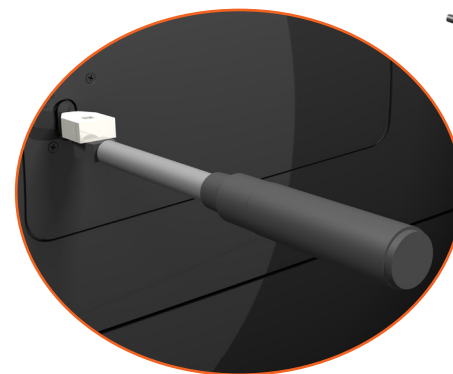
A220 GSE TOOLS



## THRUST REVERSER PRD TORQUE ADAPTOR

### DESCRIPTION - USE

This Tool is used for check pressure relief door latch pressure.



**DIMENSIONS**  
400 x 300 x 200 mm  
[16 x 12 x 8 in]

**WEIGHT**  
2 kg [5 lbs]

The pictures, measurements, and weights shall be used only as an indication.

14

347-3001-14GSE



A220 GSE TOOLS





## TRANSLATING SLEEVE DOLLY

### DESCRIPTION - USE

This Tool is used during the maintenance and transportation of transleeve assembly.

### CAUTION

When the Translating Sleeve is removed from the aircraft using the Thrust Reverser Sling, the Translating Sleeve Dolly is needed to store or work on the Translating Sleeve.



**DIMENSIONS**  
2700 x 1950 x 1300 mm  
[107 x 77 x 52 in]

**WEIGHT**  
440 kg [970 lbs]

The pictures, measurements, and weights shall be used only as an indication.

15

347-3501-2GSE



A220 GSE TOOLS



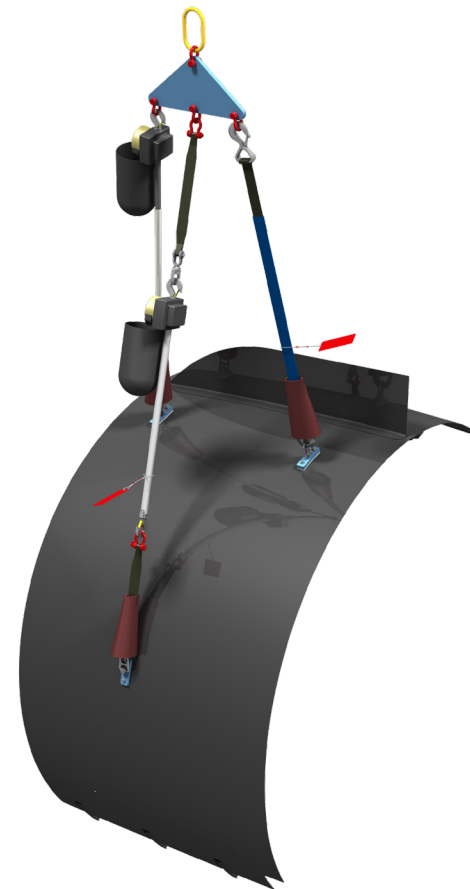
## FAN COWL DOOR SLING

### DESCRIPTION - USE

The Fan Cowl Door Sling is used for E190-E2 series Fan Cowl Installation & Removal only.

### CAUTION

This Sling is a lifting tool and it's the only tool validated to lift the E190-E2 Fan Cowl. If the Fan Cowl is lifted with another tool, and there is damage, insurance may not cover the damage.



**DIMENSIONS**  
800 x 450 x 350 mm  
[32 x 18 x 14 in]

**WEIGHT**  
70 kg [155 lbs]

The pictures, measurements, and weights shall be used only as an indication.

16

347-2000-1GSE



A220 GSE TOOLS



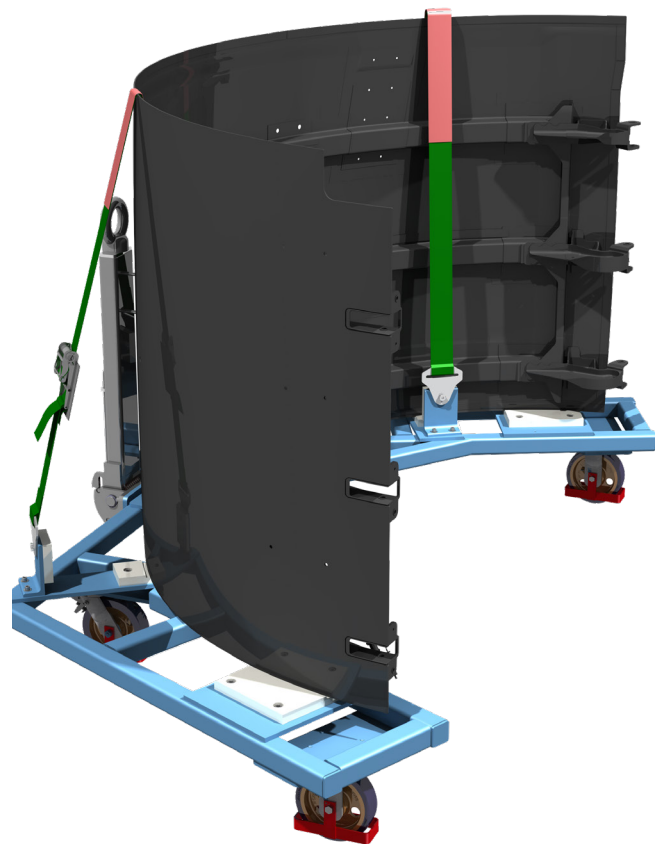
## FAN COWL DOLLY

### DESCRIPTION - USE

The Fan Cowl Dolly is used to move the Fan Cowl in the hangar or shop and for Fan Cowl Storage. The Fan Cowl can be maintained or stored on the Fan Cowl Dolly.

### CAUTION

After using the Fan Cowl Sling 347-2000-1GSE to remove a Fan Cowl from the Engine, the Fan Cowl Dolly is needed to move, store or do maintenance on the Fan Cowl.



### DIMENSIONS

3100 x 1700 x 1300 mm  
[123 x 67 x 52 in]



### WEIGHT

350 kg [772 lbs]

The pictures, measurements, and weights shall be used only as an indication.

17

347-2000-2GSE



A220 GSE TOOLS



## FAN COWL VENT DOOR PLUG

### DESCRIPTION - USE

The Fan Cowl Vent Door Plug is used to prevent foreign objects from entering into the Fan Cowl when the aircraft is in parking or mooring.



### DIMENSIONS

550 x 450 x 250 mm  
[22 x 18 x 10 in]



### WEIGHT

5 kg [12 lbs]

The pictures, measurements, and weights shall be used only as an indication.

18

347-2000-3GSE

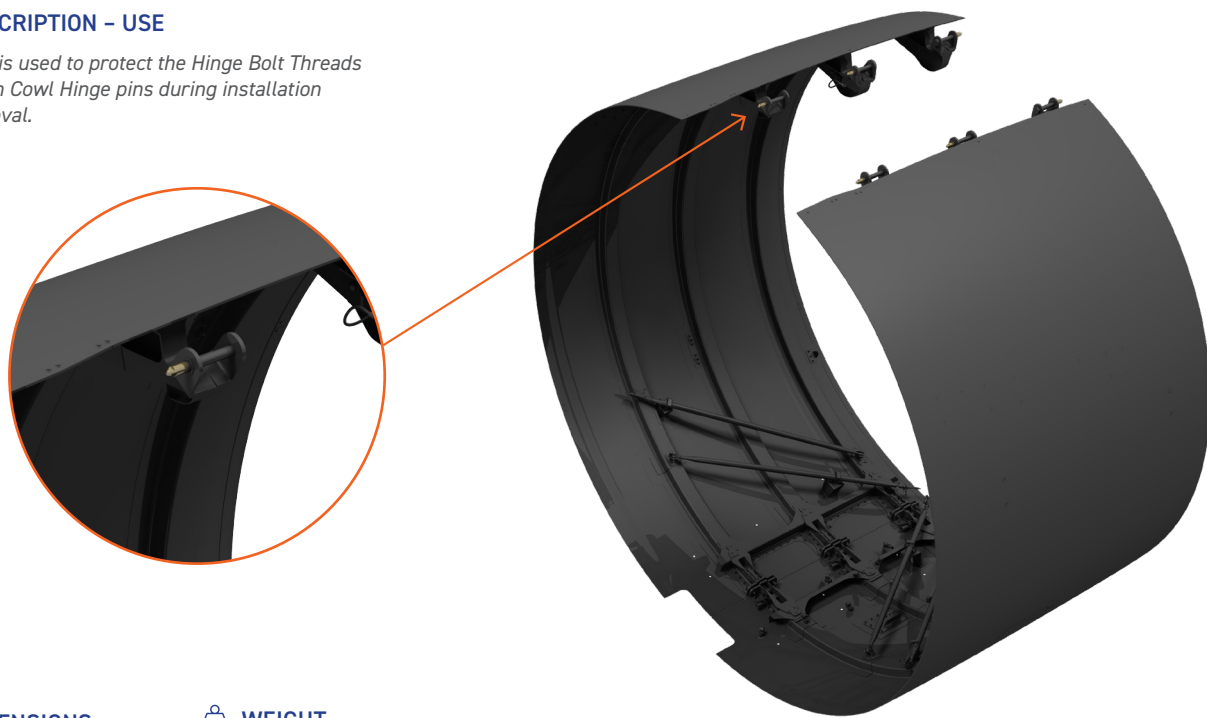
A220 GSE TOOLS



## FAN COWL HINGE BOLT THREAD PROTECTORS

### DESCRIPTION - USE

This tool is used to protect the Hinge Bolt Threads of the Fan Cowl Hinge pins during installation and removal.



**DIMENSIONS**  
300 x 300 x 150 mm  
[12 x 12 x 6 in]

**WEIGHT**  
2 kg [5 lbs]

The pictures, measurements, and weights shall be used only as an indication.

19

347-2000-5GSE



A220 GSE TOOLS



## EXHAUST NOZZLE AND CENTERBODY COVER

### DESCRIPTION - USE

This tool is used to cover exhaust exit area and cover the AFT Centerbody.

### CAUTION

Without the Inlet Cowl Cover, water, dust or wind can go inside the Engine.

- > Water retention: accelerates corrosion.
- > Dust: the engine could be damaged during the ignition.
- > Wind: allows blade rotation which may cause damage.

The engine warranty may be void if the Covers are not used properly under the required conditions and there is damage to the engine.

**DIMENSIONS**  
1200 x 500 x 400 mm  
[48 x 20 x 16 in]

**WEIGHT**  
40 kg [89 lbs]

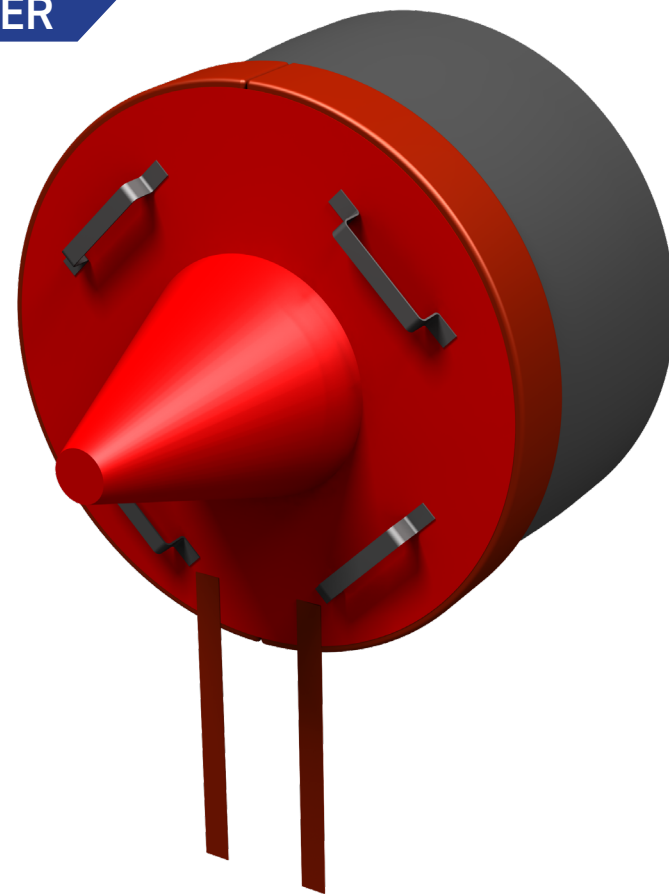
The pictures, measurements, and weights shall be used only as an indication.

20

347-4100-1GSE



A220 GSE TOOLS





## EXHAUST NOZZLE LIFTING AID

### DESCRIPTION - USE

This tool is used to install or remove Exhaust Nozzle Assembly.

### CAUTION

This Aid is a lifting tool and it is the only tool validated to lift the E190-E2 Nozzle. If the Nozzle is lifted with another tool, and there is damage, the insurance may not cover that damage.

### TEST

Dedienne Aerospace has regional facilities to aid in the required annual testing and recertification.

### DIMENSIONS

1600 x 1200 x 1300 mm  
[63 x 48 x 52 in]



### WEIGHT

200 kg [441 lbs]



The pictures, measurements, and weights shall be used only as an indication.

21

347-4100-4GSE



A220 GSE TOOLS



## ENGINE MOUNT CART

### DESCRIPTION - USE

This Tool is used for Engine Mount Assembly Transportation & Maintenance.

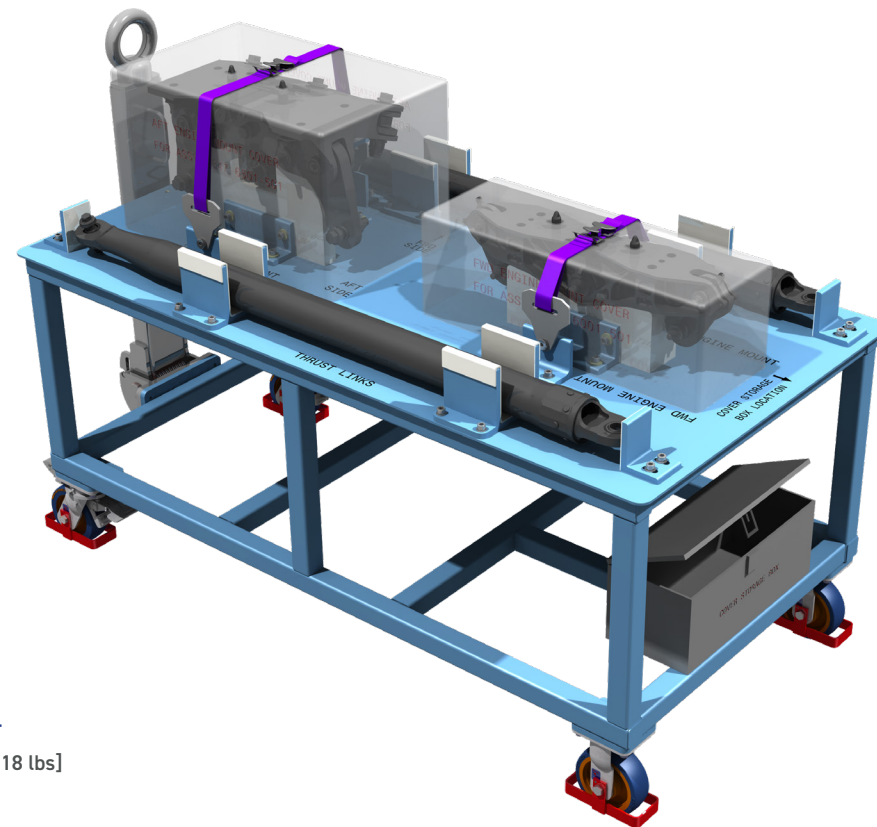
### DIMENSIONS

2000 x 1100 x 1300 mm  
[79 x 44 x 52 in]



### WEIGHT

280 kg [618 lbs]



The pictures, measurements, and weights shall be used only as an indication.

22

347-6000-1GSE

A220 GSE TOOLS



## FWD ENGINE MOUNT SLING

### DESCRIPTION - USE

This Tool is used to lift and move the FWD Engine Mount Assy.

### CAUTION

This FWD Engine Mount Sling is a lifting tool and it is the only tool validated to lift the E190-E2 FWD Engine Mount. If the Engine Mount is lifted with another tool, and there is damage, the insurance may not cover the damage.

### TEST

Dedienne Aerospace has regional facilities to aid in the required annual testing and recertification.

### DIMENSIONS

550 x 450 x 250 mm  
[22 x 18 x 10 in]



### WEIGHT

9,8 kg [22 lbs]



The pictures, measurements, and weights shall be used only as an indication.

23

347-6001-2GSE



A220 GSE TOOLS



## AFT ENGINE MOUNT SLING

### DESCRIPTION - USE

This Tool is used to lift and move the AFT Engine Mount Assy.

### CAUTION

This AFT Engine Mount Sling is a lifting tool and it is the only tool validated to lift the E190-E2 AFT Engine Mount. If the Engine Mount is lifted with another tool, and there is damage, the insurance may not cover the damage.

### TEST

Dedienne Aerospace has regional facilities to aid in the required annual testing and recertification.

### DIMENSIONS

600 x 250 x 400 mm  
[24 x 10 x 16 in]



### WEIGHT

14 kg [31 lbs]



The pictures, measurements, and weights shall be used only as an indication.

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347-6501-1GSE

A220 GSE TOOLS



- Production & service center
- Service center
- Sales office

## SALES & TECHNICAL SUPPORT

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