

CIVIL AVIATION AUTHORITY

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)



NO:BM 70 ISSUE: 4

TYPE: **QUIK GT 450**

- (1) MANUFACTURER: P&M Aviation Ltd, Unit B, Crawford St, Rochdale, Lancashire, OL16 5NU
- (2) UK IMPORTER: N/A
- (3) CERTIFICATION: BCAR section S issue 3
- (4) DEFINITION OF BASIC STANDARD: Airworthiness Submission QUIK GT450, GA drawing YQD-000 as amended.

(5) COMPLIANCE WITH THE MICROLIGHT DEFINITION

(a) MTOW	450 kg
(b) No. Seats	2
(c) Maximum Wing Loading	34.6kg/m ²
(d) V _{so}	38mph CAS
(e) Permitted range of pilot weights	55-110 kg front seat. 0-110 kg rear seat.
Total Maximum crew weight	220kg
(f) Typical Empty Weight (ZFW)	217Kg (912) 205kg (582)
(g) ZFW + 172 kg crew + 1 hr fuel (18litres /13 kg)	402Kg (912)
ZFW + 172 kg crew + 1 hr fuel (25litres /18 kg)	385kg (582)
(h) ZFW + 86 kg pilot + full fuel (65litres /47 kg)	350kg (912)
ZFW + 86 kg pilot + full fuel (65litres /47 kg)	338kg (582)
(i) Max ZFW at initial permit issue	265Kg (912)
Max ZFW at initial permit issue	260Kg (582)

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(6) POWER PLANTS

Designation	<i>Quik GT450</i>	<i>Quik GT450</i>	<i>Quik GT450</i>	<i>Quik GT450</i>	<i>Quik GT450 Lite</i>
Engine Type	<i>Rotax 912 ULS 4 cylinder 4 stroke</i>	<i>Rotax 912 UL 4 cylinder 4 stroke</i>	<i>Rotax 912 ULS 4 cylinder 4 stroke</i>	<i>Rotax 912 UL 4 cylinder 4 stroke</i>	<i>Rotax 582/48 2 cylinder 2 stroke</i>
Reduction Gear	<i>2.43:1 gearbox</i>	<i>2.27:1 gearbox</i>	<i>2.43:1 gearbox</i>	<i>2.27:1 gearbox</i>	<i>3.47:1 gearbox</i>
Exhaust System	<i>Rotax side mounted</i>	<i>Rotax side mounted</i>	<i>CKT Twin Exhaust</i>	<i>CKT Twin Exhaust</i>	<i>Rotax side mounted with after muffler</i>
Intake System	<i>K&N intake filter With Cyclone hot coil intake heater or Skydrive carb body heater</i>	<i>K&N intake filter With Cyclone hot coil intake heater or Skydrive carb body heater</i>	<i>K&N intake filter With Cyclone hot coil intake heater or Skydrive carb body heater</i>	<i>K&N intake filter With Cyclone hot coil intake heater or Skydrive carb body heater</i>	<i>K&N intake filter and P&M intake silencer With Optional Skydrive carb body heaters</i>
Propeller Type	<i>Warp Drive</i>	<i>Warp Drive</i>	<i>Warp Drive</i>	<i>Warp Drive</i>	<i>Warp Drive</i>
Propeller Dia x Pitch	<i>172cm, 16° at tip</i>	<i>172cm, 11° at tip</i>	<i>172cm, 16° at tip</i>	<i>172cm, 11° at tip</i>	<i>177cm, 18° at tip</i>
Noise Type Cert No.	<i>187M issue 1</i>	<i>187M issue 1</i>	<i>187M issue 3</i>	<i>187M issue 3</i>	<i>187M issue 5</i>
AAN approving configuration	<i>BMAA AAN 1014</i>	<i>BMAA AAN 1014</i>	<i>BMAA AAN 1019</i>	<i>BMAA AAN 1019</i>	<i>BMAA AAN 1075</i>

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(7) MANDATORY LIMITATIONS:

(A) Max Take-Off Weight	450kg												
(B) CG Limits	N/A not critical Flexwing with defined hang point position on keel												
(C) CG datum	Nosewheel axle												
(D) Cockpit Loadings (solo front seat only)	<table><thead><tr><th></th><th>Front</th><th>Rear</th><th>Total</th></tr></thead><tbody><tr><td>Min</td><td>55kg</td><td>0</td><td>55kg</td></tr><tr><td>Max</td><td>110kg</td><td>110kg</td><td>220kg</td></tr></tbody></table>		Front	Rear	Total	Min	55kg	0	55kg	Max	110kg	110kg	220kg
	Front	Rear	Total										
Min	55kg	0	55kg										
Max	110kg	110kg	220kg										
(E) Never Exceed Speed	110mph IAS												
(F) Manoeuvring Speed	80mph IAS												
(G) Permitted Manoeuvres	45° Nose up / 45° nose down Non Aerobatic, max bank 60° Normal acceleration limits, +4 / -0g												
(H) Fuel Contents (Max Useable)	65L												

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(l) Power Plant See Table

Engine	Rotax 912 ULS	Rotax 912 UL	Rotax 582/48	
Max RPM	5800max 5min. 5500 contin.	5800max 5min. 5500 contin.	6800max 5min. 6500 contin.	
MAX CHT	135°C **	150°C **	150°C	
MAX EGT	880°C	880°C	650°C	
Fuel Spec	83 MON or 90 RON minimum unleaded to BS(EN)228 or 97+ octane 4-star /MOGAS led fuel to BS 4040, or AVGAS 100LL.*			
Engine Oil Spec	API SF or SG semi synthetic 4 stroke motorcycle engine oil.	API SF or SG semi synthetic 4 stroke motorcycle engine oil.	API-TC super 2 stroke oil e.g. Castrol TTS	
Gearbox oil spec	Common supply with engine	Common supply with engine	API-GL5 or SAE 85W-140	
Fuel/Oil Mix	N/A	N/A	Oil injection N/A or Premix 50:1	
Coolant Temperature	120°C	120°C	80°C	
Oil Pressure	2-5 bar above 3500 rpm	2-5 bar above 3500 rpm	N/A	
Oil Temperature	50-130°C	50-140°C	N/A	
Fuel Pressure	0.4-0.15 bar	0.4-0.15 bar	0.4-0.15 bar	

*Unleaded preferred. See flight manual for limitations on AVGAS.

**With 100% Ethylene Glycol or Evans NPG coolant, see SB121

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(8) INSTRUMENTS REQUIRED:

912 series engines

ASI	Altimeter	RPM	EGT	Compass	CHT or Coolant temp	Fuel Pressure	VSI	Oil Temp	Oil Pressure	Slip ball
Required (0-150mph.)	Required 0-20,000 ft	0-6000	Optional 50-150°C 375-925°C	Optional	50-150°C 375-925°C	Optional	Optional	50-150°C	0-8bar	N/A 2 axis control

582 engine

ASI	Altimeter	RPM	EGT	Compass	Coolant temp	CHT Optional	Fuel Pressure	VSI
Required (0-150mph.)	Required 0-20,000 ft	0-7000	0-800°C	Optional	80°C	0-300°C	Optional	Optional

(9) CONTROL DEFLECTIONS:

N/A weight shift control limits defined by structure geometry.

- Control bar move right = roll left
- Control bar push out = pitch up
- Trim switch up = slow trim
- Push left pedal = taxi steering right
- Push left toe = brakes on
- Push right toe = throttle open
- Hand throttle forward = throttle open
- Ignition switches up = switch on
- Choke forward = choke on
- Tap aligned with body = fuel on

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(10) PILOT'S NOTES, MAINTENANCE MANUALS REFERENCES:

10.1 Manuals approved for use with this aircraft.

- (a) GT 450 Operator's manual, as amended.
- (b) Rotax 912 and 912-S Operator's manual
- (c) Rotax 912 and 912-S Maintenance Manual.
- (d) Rotax 582 Operator's manual.
- (e) Rotax 582 Maintenance Manual.

10.2 The following placards are to be fitted:-

(a) Flight Limitations Placard (to be visible to pilot)
See Annex D.

(b) Engine Limitations Placard (to be located near to engine instruments)
N/A limitations are programmed into electronic Rotax FLYDAT instrument or marked as red lines on the instrument faces

(c) Fuel Limitations Placard (to be located near to filler cap)
See Annex D.

(d) Switches
See Annex D.

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(11) MANDATORY MODIFICATIONS / SERVICE BULLETINS / AIRWORTHINESS DIRECTIVES ETC:

SB127	CKT Twin Exhausts	Check for cracking	08/09/09
SB132 Issue 4	Sail Reinforcement Test	Brooks testing	18/06/13

Annual Bettsometer test with a 1.2mm diameter needle, with wing sails fitted and tensioned enough to prevent puckering of sailcloth at the needle, is to be carried out to in accordance with Service Bulletin 133 issue 3.

Applied loads:

Upper & lower surface: 1360 grammes, for wings with Yellow Aramid Reinforcement.

Or

Upper & lower surface: 1000 grammes, for wings with Black Technora reinforcement.

Loads to be applied spanwise and chordwise.

Stitches: 1360 grammes using a 1.2mm diameter hook, pull at 90degs to surface of tensioned sail.

Annual Brooksmeter test after first 2 years, using Brooksmeter, on untensioned wing trailing edge is to be carried out in accordance with Service Bulletin 132 issue 4.

Applied loads:

Aramid X-05 Yellow sail reinforcement: 9kgf

or

Technora Black sail reinforcement: 8kgf

(12) MINIMUM ISA PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: 1000 fpm at 55mph IAS (912 engine)
1200fpm at 55mph IAS (912-S engine)
550fpm at 55mph IAS (582/48 engine)

Stall or Minimum Flying Speed: 38mph IAS at MTOW / idle.

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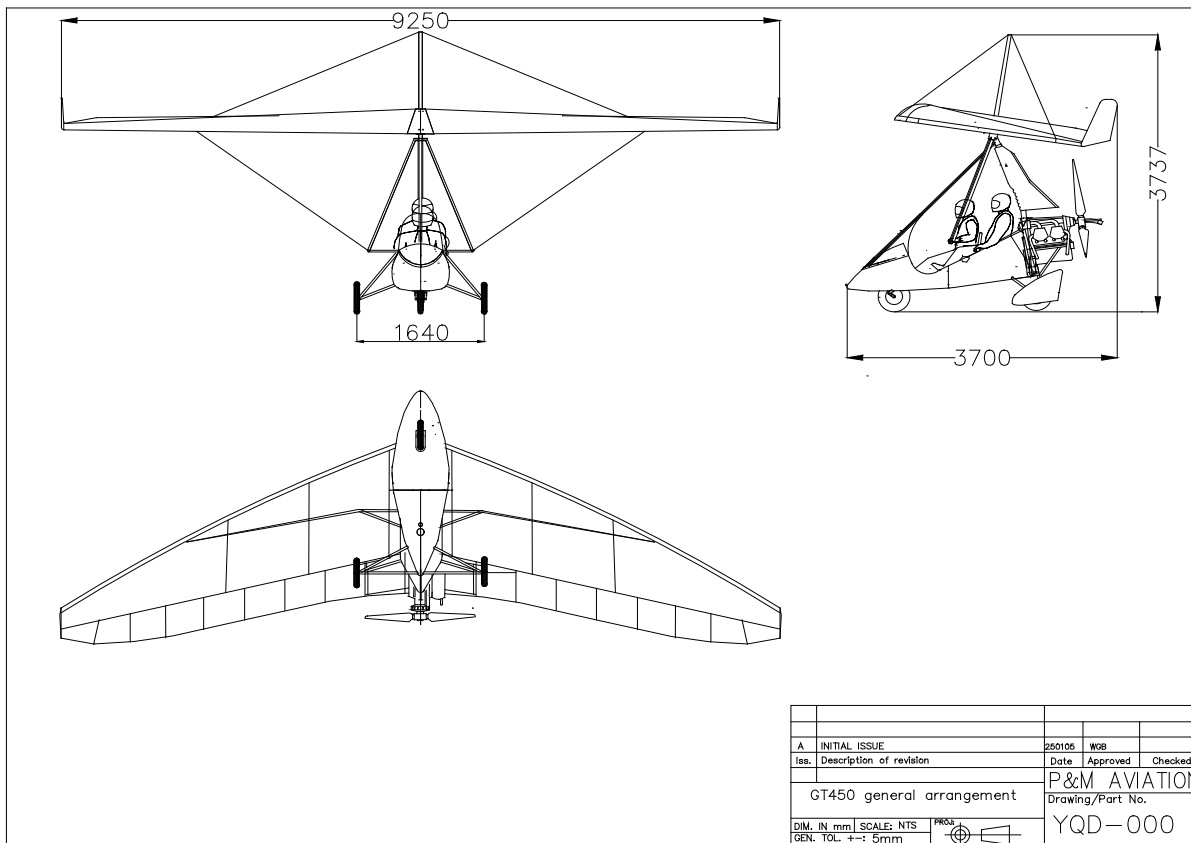
Issue History

<u>Issue No.</u>	<u>Reason and signatory</u>
1	14/12/05 Initial Issue A C LOVE
2	18/04/07 Update to include additional modifications J C BARRATT
3	18/03/15 Betts & Brooks Test Limits Amended & General Update A C LOVE
4	03/06/15 Introduction of Rotax 582 engine option, vented undersurface wing with tip fins now optional.



A C LOVE

Illustration of Aircraft - 3 View



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ANNEX A – MANDATORY MODIFICATIONS

CAA Mandatory modifications:

Nil

P&M Aviation compulsory modifications:

Nil

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ANNEX B - APPROVED OPTIONAL MODIFICATIONS

The installation of all optional modifications is to be inspected by a BMAA inspector and an entry made in the appropriate logbook(s). Note that other approved modifications may exist which are not listed here.

<u>Mod Ref</u>	<u>Description</u>	<u>Notes</u>	<u>Issued</u>
PG371	Instructor bars	Optional	03/10/02
M135	BRS parachute	Optional	04/02/05
M137	Low drag panniers	Optional	06/04/05
M140	Keel nose holes bush	Optional, std. repair	06/04/05
M141	Cross boom end hole bush	Optional, std. repair	06/04/05
M142	Leading edge front bush	Optional, std. repair	06/04/05
M147	Quik Bush tube sleeve for basetube	Optional	12/05/05
M152	Cranked Brake Pedal Quik Hydraulic Brakes	Optional	28/07/05
M153	Landing light	Optional	31/08/05
M156	Engine Cover & Large Radiator type ELR-003.	Optional	12/02/06
M157	Standard GPS & Power socket	Optional	12/01/06
M160	New trim system pulley assy	Optional	19/01/06
M162	CKT exhaust and cooling pack QUIK and GT450, Rotax 912 and 912-S	Optional	15/11/06
M164	Move Cooling Pack Lower Rearwards	Optional	26/06/07
M165	Lower Pylon Face Bearing	Optional	28/06/07
M166	Mylar Cover On Sail Protection Patch	Optional	25/10/06
M168	New coolant overflow bottle mounted on gearbox	Optional	14/03/06

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<u>Mod Ref</u>	<u>Description</u>	<u>Notes</u>	<u>Issued</u>
M176	Oil Hose Fastened to Gearbox	Optional	27/07/06
M180	Larger Instrument Panel	Optional	19/03/07
M204	Webs on Subframe	Optional	11/03/08
M217	Stoneguard	Optional	10/01/11
M218	Enigma Instrument	Optional	30/09/08
M220	PX10T Leading Edge Material	Optional	03/09/08
M224	Aveo LED Position & Strobe Light	Optional	15/10/08
M225	Trim Pot	Optional	20/02/09
M231	Radio/Transponder/ELT	Optional	24/07/09
M232	Seat Belt Protection Sleeve	Optional	20/08/09
M234	Hand Controls	Optional	12/02/10
M235	YTZ-14 Battery	Optional	11/12/09
M236	Technoral Strips	Optional	30/06/10
M238	GT450 Tug	Optional	04/10/10
M242	Rear Axle Aerial Mnt	Optional	31/01/11
M244	Oil & Coolant Thermostats	Optional	27/10/11
M249	Super B Battery	Optional	09/11/11
M250	UV (TNF215 or CB) Sailcloth	Optional	27/05/11
M251	Screen Washer	Optional	15/06/11
M256	Explorer Large Wheels and Brakes	Optional	21/03/12
M270	Sail TE Reinforcement	Optional	07/12/12
M282	Fournales Shocks	Optional	25/07/14
M286	Spinner	Optional	12/12/14
M289	Rotax 582/48 engine	Optional	15/03/15
M290	Vented undersurface	Optional	15/03/15

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ANNEX C

WEIGHING INFORMATION

The table below is a guide only. Empty weights include unusable fuel, full oil, electrolyte and prepared ready for flight.

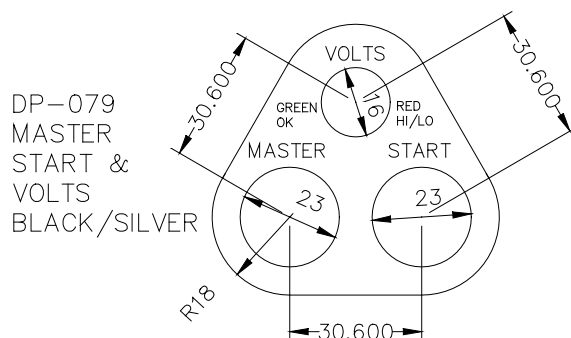
ITEM WEIGHT kg	
Quik -912 Trike	167
Quik – 582 Trike	154
GT 450 wing only	51.5
OPTIONAL ITEMS	
MAP BOX-FABRIC	0.76
50mm FRONT SEAT BOOSTER PAD	0.27
50mm FRONT S/BACK BOOSTER PAD ET	0.25
50mm REAR BOOSTER PAD	0.27
100mm REAR BOOSTER PAD	0.42
CONTROL BAR PROTECTION (2)	0.05
FRONT STRUT PROTECTION	0.04
LYNX ANTENNA	0.19
LYNX FILTER, POWER INT, PTT	0.81
INSTRUCTOR BARS	2.4
ICOM HAND HELD RADIO	0.3

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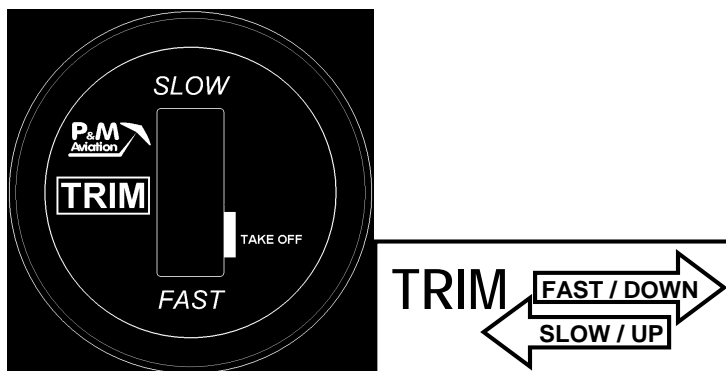
ANNEXE D

EXAMPLE PLACARDS

Title	Location
Flight Limitations:	On LH wing upright
Engine Limitations:	On panel
Aircraft Weights:	On basetube
Baggage Limitations:	On baggage container
Fuel Type, Capacity and Mix Ratio:	On rear suspension leg
Fuel Cock On/Off Positions:	On seat
Ignition Switch On/Off Positions:	On ignition switch bracket
Propeller Pitch Setting:	On airbox or radiator
Hand Throttle:	On throttle unit
Wiring Loom Disconnection Warning:	On airbox or carb covers
Trimmer Setting:	On trim switch (electric trim) On trim display (electric trim)
Tip Turn Adjusters:	On leading edge tube tips
Latch Locking:	On seat next to latch
Oil Type and Quantity:	On oil cap
Propeller Pitch:	On oil cooler
Fuel Load Limitations:	In the cockpit



TRIM INDICATOR AND TRIM SWITCH PLACARDS



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MAIN PLACARD (912 series engines)

P&M AVIATION	
QUIK GT450	
FLIGHT LIMITATIONS	
MANOEUVRING SPD	80MPH
NEVER EXCEED Vne	110MPH
MAX CROSS WIND	12MPH
ENGINE LIMITATIONS	
MAX OIL PRESSURE	7 BAR
MIN OIL PRESSURE	1.5 BAR
MAX OIL TEMP	(912) 140 DegC
	(912S) 130 DegC
MIN OIL TEMP	50 DegC
MAX CHT	(912) 150 DegC
	(912S) 135 DegC
MAX CONT RPM	5500
MAX RPM	5800
PAYLOAD LIMITATIONS	
MAX. TAKE OFF WEIGHT	450KG
MAX. COCKPIT LOAD	220KG
MAX. P1 LOAD	110KG
MAX PASSENGER LOAD	110KG
MIN P1 LOAD	55KG
DO NOT EXCEED MAX. LOAD	
WARNING	
MINIMUM FULL POWER CLIMB SPEED 40 MPH DO NOT EXCEED 60 DEGREES ANGLE OF BANK THIS AIRCRAFT IS NON-AEROBATIC NO WHIPSTALLS, WINGOVERS, TAILSLIDES, LOOPS, ROLLS OR SPINS	
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MAIN PLACARD (582 ENGINE)

P&M AVIATION

QUIK GT450 LITE 582

FLIGHT LIMITATIONS

MANOEUVRING SPD 80MPH
NEVER EXCEED V_{ne} 110MPH
MAX CROSS WIND 12MPH

ENGINE LIMITATIONS

MAX EGT 650°C
MAX CHT 150°C
MAX COOLANT 80°C
MAX CONT RPM 6500
MAXRPM (5 min) 6800

PAYLOAD LIMITATIONS

MAX. TAKE OFF WEIGHT 450KG
MAX. COCKPIT LOAD 220KG
MAX. P1 LOAD 110KG
MAX PASSENGER LOAD 110KG
MIN P1 LOAD 55KG
MAX. TAKE OFF WEIGHT 450KG
MAX. COCKPIT LOAD 220KG

DO NOT EXCEED MAX. LOAD

WARNING

**MINIMUM FULL POWER CLIMB
SPEED 40 MPH
DO NOT EXCEED 60 DEGREES ANGLE
OF BANK
THIS AIRCRAFT IS NON-AEROBATIC
NO WHIPSTALLS, WINGOVERS,
TAILSLIDES, LOOPS, ROLLS OR
SPINS
NO NEGATIVE G
MAINTAIN POITIVE 'G' LOADING AT
ALL TIMES
FLY SOLO FROM FRONT SEAT ONLY**

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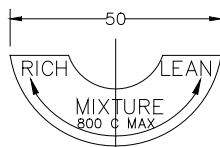
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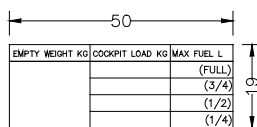


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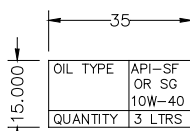
MISCELLANEOUS PLACARDS. IGNITION SWITCH PLACARD IS SPLIT AND USED FOR BOTH MAG SWITCHES.



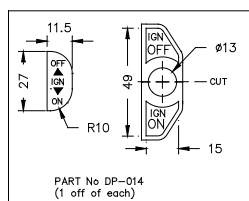
DP-076 MIXTURE CONTROL



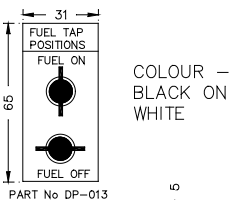
DP-075 FUEL LOAD PLACARD (ALL)



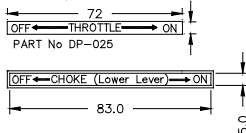
DP-077 OIL TYPE & QTY PLACARD



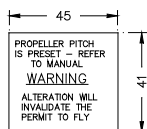
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(1 off of each)



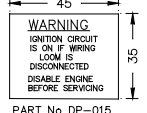
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PART No DP-025



PART No DP-016



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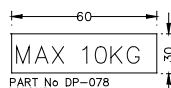
COLOUR RED ON WHITE



PART No DP-021



PART No DP-020



PART No DP-078
COLOUR - BLACK ON YELLOW FABRIC



PART No DP-044