



FICHE COMPLEMENTAIRE D'HOMOLOGATION EN GROUPE "N"
COMPLEMENTARY HOMOLOGATION FORM IN GROUP "N"

Véhicule: Constructeur
Vehicle: Manufacturer PERUSAHAAN OTOMOBIL NASIONAL
BERHAD

Modèle et type
Model and type PROTON WIRA 1.6XLi (C98S)
PROTON PERSONA 1.6XLi (C98S)

Homologation valable à partir du
Homologation valid as from 01 JUL. 1994

IMPORTANT:

La présente fiche comporte toutes informations complémentaires à la fiche d'homologation de base Gr. A pour la participation du véhicule en Gr. N. En cas d'information contradictoire, seule l'information figurant sur la présente fiche est à prendre en considération pour le Gr. N.

IMPORTANT:

This form includes all the additional information to the basic Gr. A homologation form for the participation of the vehicle in Gr. N. In the case of contradictory information, only the information appearing on the present form is to be taken into consideration for Gr. N.

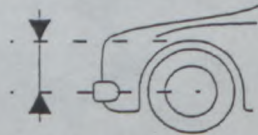
1. GENERALITES / GENERAL

103. Cylindrée 1597 cm³ Cylindrée corrigée X X X X X X X X X X X X X X cm³
Cylinder capacity Corrected cylinder capacity

2. DIMENSIONS, POIDS / DIMENSIONS, WEIGHT

201. Poids minimum 1040 kg
Minimum weight

205. Hauteur minimum centre moyeu de roue /
ouverture du passage de roue Avant 365 mm
Minimum height center hub /
wheel arch opening Arrière 360 mm
Rear



207. Voie maximum a) Avant 1450 mm b) Arrière 1460 mm
Maximum track Front Rear

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FEDERATION INTERNATIONALE
DE L'AUTOMOBILE
8, Place de la Concorde, 8
75008 PARIS

Marque Make PROTON

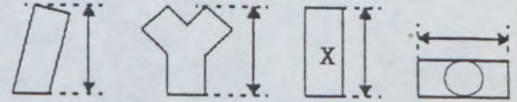
Modèle Model WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

Homologation No

N-5524

3. MOTEUR / ENGINE

302. Nombre de supports 1 308. Volume minimum total d'une chambre de combustion 44.3 cm³
Number of supports Total minimum volume of a combustion chamber
309. Volume minimum d'une chambre de combustion dans la culasse 45.82 cm³
Minimum volume of a combustion chamber in the cylinder head
310. Rapport volumétrique maximum (par rapport à l'unité) 10 :1
Maximum compression ratio (in relation with the unit)
311. Hauteur minimum du bloc-cylindres 243.5 mm selon dessin :
Minimum height of the cylinder block according to drawing :
313. Chemises b) Matériau X X X X
Sleeves Material
317. Piston a) Matériau Aluminum alloy
Piston Material
- b) Nombre de segments 3 c) Poids minimum 270 g
Number of rings Minimum weight
- d) Distance de la médiane de l'axe au sommet du piston 35.05 +/-0.1 mm
Distance from gudgeon pin center line to highest point of piston crown
- e) Distance (+/-) entre le sommet du piston au PMH et le plan de joint du bloc cylindre 0.0 +/-0.15 mm
Distance (+/-) between the top of the piston at TDC and the gasket plane of the cylinder block
- f) Volume de l'évidement du piston 12.7 +/-0.5 cm³
Piston groove volume



AA) Piston
Piston



319. Vilebrequin i) Diamètre maximum des manetons ∅ 45.0 mm
Crankshaft Maximum diameter of crank pins
321. Culasse c) Hauteur minimum 119 mm
Cylinderhead Minimum height
- d) Endroit de la mesure Sealing surface cylinder block and head-sealing surface valve cover
Where measured
322. Epaisseur du joint de culasse serré 1.2 +/-0.2 mm
Thickness of tightened cylinderhead gasket

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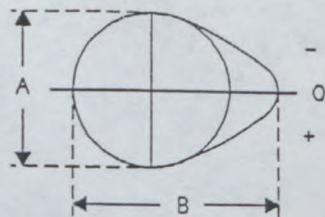
N-5524

325. Arbre à cames Camshaft e) Diamètre des paliers Diameter of bearings ϕ 45.0 - 0.075 $- 0.060$ $- 0.075$ mm

g) Dimensions de la came Admission Inlet
Cam dimensions

A = 32.0 ± 0.1 mm
B = 37.783 ± 0.1 mm

Echappement Exhaust
A = 32.0 ± 0.1 mm
B = 37.834 ± 0.1 mm



326. Distribution Timing a) Jeu théorique de distribution Theoretical clearance for valve timing admission intake 0.0 mm échappement exhaust 0.0 mm

d) Levée de came en mm (arbre démonté) Cam lift in mm (dismounted camshaft) (dessin / drawing Art. 325)

ADMISSION / INTAKE				ECHAPPEMENT / EXHAUST			
Angle de rotation en degrés Rotation angle in degrees	Levée en mm (+/- 0.2 mm) Lift in mm (+/- 0.2 mm)	Angle de rotation en degrés Rotation angle in degrees	Levée en mm (+/- 0.2 mm) Lift in mm (+/- 0.2 mm)	Angle de rotation en degrés Rotation angle in degrees	Levée en mm (+/- 0.2 mm) Lift in mm (+/- 0.2 mm)	Angle de rotation en degrés Rotation angle in degrees	Levée en mm (+/- 0.2 mm) Lift in mm (+/- 0.2 mm)
0	5.783			0	5.834		
- 5	5.7	+ 5	5.6	- 5	5.7	+ 5	5.834
- 10	5.5	+ 10	5.5	- 10	5.6	+ 10	5.6
- 15	5.2	+ 15	5.2	- 15	5.2	+ 15	5.4
- 30	4.7	+ 30	4.1	- 30	4.4	+ 30	4.2
- 45	2.6	+ 45	2.9	- 45	2.6	+ 45	2.2
- 60	0.1	+ 60	0.7	- 60	0.3	+ 60	0.1
- 75	0	+ 75	0.1	- 75	0	+ 75	0
- 90	0	+ 90	0	- 90	0	+ 90	0
- 105	0	+ 105	0	- 105	0	+ 105	0
- 120	0	+ 120	0	- 120	0	+ 120	0
- 135	0	+ 135	0	- 135	0	+ 135	0
- 150	0	+ 150	0	- 150	0	+ 150	0

Un décalage de l'ensemble des mesures de +/- 2 degrés est accepté.
A shift of +/- 2 degrees of the whole measurement is accepted.

e) Levée maximum des soupapes Maximum valve lift

	Levée maximum Maximum valve lift
Admission / Intake	<u>9.40</u> ± 0.2 mm
Echappement / Exhaust	<u>8.89</u> ± 0.2 mm

avec jeu selon Art. 326.a
with clearance according to Art. 326.a

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327. Admission Intake h) Nombre de ressorts par soupape Number of springs per valve 1

i) Caractéristiques des ressorts : Spring characteristics :

Sous une charge de 22.0 kg, la longueur max. du ressort est de 44.2 mm
Under a load of _____ kg, the max. length of the spring is _____

k) Diamètre extérieur des ressorts ∅ 25.0 +/-0.2 mm l) Nombre de spires des ressorts 9.7
External diameter of the springs _____ Number of spring coils _____

m) Diamètre du fil des ressorts ∅ 4.21 +/-0.1 mm n) Longueur libre max. des ressorts 50.9 mm
Diameter of spring wire _____ Max. free length of the springs _____

328. Echappement Exhaust i) Nombre de ressorts par soupape Number of springs per valve 1

k) Caractéristiques des ressorts : Spring characteristics :

Sous une charge de 22.0 kg, la longueur max. du ressort est de 44.2 mm
Under a load of _____ kg, the max. length of the spring is _____

l) Diamètre extérieur des ressorts ∅ 25.0 +/-0.2 mm m) Nombre de spires des ressorts 9.7
External diameter of the springs _____ Number of spring coils _____

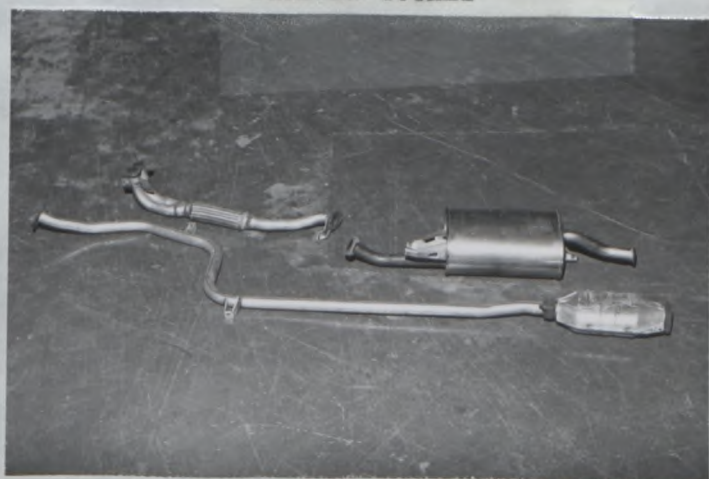
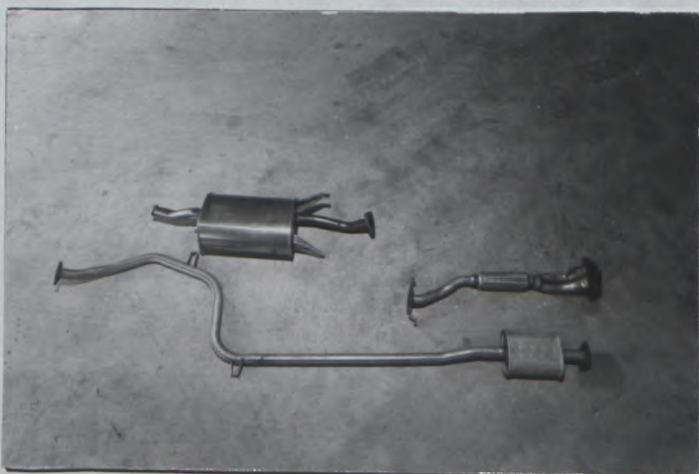
n) Diamètre du fil des ressorts ∅ 4.21 +/-0.1 mm o) Longueur libre max. des ressorts 50.9 mm
Diameter of spring wire _____ Max. free length of the springs _____

p) Diamètre de tuyauterie entre collecteur et premier silencieux ∅ 39.5 mm +/- 5%
Diameter of pipe between manifold and first silencer ∅ 48.6 catalytic

BB) Echappement complet Complete exhaust system

WIRA 1.6XLi

PERSONA 1.6XLi



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329. Système anti-pollution Anti pollution system

a)

oui	non
yes	no

b) Description EGR, (Catalytic converter & Charcoal canister for PERSONA 1.6XLi only)
Description _____

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330. Système d'allumage Ignition system a) Type Type Transistorized by mapped

d) Nombre de bobines Number of coils 2

331. Système de refroidissement Cooling system Capacité Capacity 6 l

332. Ventilateur de refroidissement Cooling fan a) Nombre Number 1 b) Diamètre de l'hélice Diameter of the screw Ø 320 mm

c) Matériau de l'hélice Material of the screw Plastic d) Nombre de pales Number of blades 4

e) Type d'entraînement Type of drive Electrical f) Ventilateur débrayable Automatic cut in

oui	non
yes	no

333. Système de lubrification Lubrication system c) Capacité totale Total capacity 4.3 l d) Refroidisseur(s) d'huile Oil cooler(s)

oui	non
yes	no

 Nombre Number X X X X

e) Emplacement du(des) refroidisseur(s) Location of the cooler(s) X X X X

f) Type du(des) refroidisseur(s) Type of the cooler(s) X X X X

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Marque
Make

PROTON

Modèle
ModelWIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

N-5524

4. CIRCUIT DE CARBURANT / FUEL CIRCUIT

401. Réservoir
Fuel tank
- d) Capacité totale
Total capacity 50 l
- e) Emplacement des orifices
Filler hole locations Right-hand rear fender
402. Pompe(s) à essence
Fuel pump(s)
- a)

Electrique Electrical	Mécanique Mechanical
--------------------------	---
- b) Nombre
Number 1
- c) Marque et type
Make and type NIPPON DENSO
- d) Emplacement
Location In fuel tank
- e) Débit maximum
Maximum flow 1.33 l/mn à
l/mn at X X X X t/mn
rpm

5. EQUIPEMENT ELECTRIQUE / ELECTRICAL EQUIPMENT

501. Batterie(s)
Batterie(s)
- c) Emplacement
Location Engine Compartment
502. Génératrice(s)
Generator(s)
- a) Nombre
Number 1
- b) Type
Type Alternator
- c) Système d'entraînement
Drive system Multi rib V belt
- d) Puissance nominale
Nominal power 780 watts
503. Phares escamotables
Retractable headlights
- a)

oui	non
yes	no
- b) Système de commande
Control system X X X X

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Marque PROTON
 Make _____

Modèle WIRA 1.6XLi (C98S)
 Model PERSONA 1.6XLi (C98S)

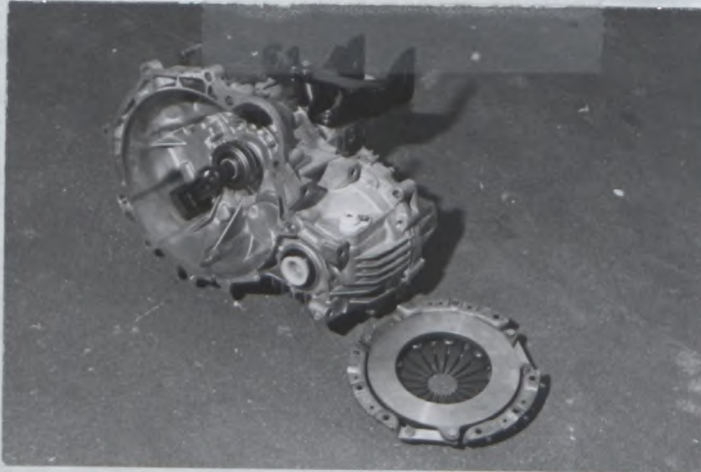
Homologation No

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6. TRANSMISSION / POWER TRAIN

602. Embrayage Clutch a) Type Dry Single Plate d) Diamètre du(des) disque(s) ∅ 200 +/-2 mm
 Diameter of the plate(s) _____

CC) Embrayage Clutch



603. Boîte de vitesses Gearbox

h) Refroidisseur d'huile Oil cooler

oui	non
yes	no

 Type X X X X

604. Boîte de transfert / différentiel central : Transfer box / central differential :

e) Répartition du couple : e1) Avant X X X X % Arrière X X X X %
 Torque distribution : Front Rear

e2) Nombre de dents : X X X X
 Number of teeth :

f) Type de limitation de différentiel central X X X X
 Type of central differential limitation

605. Couple final Final drive

d) Type de limitation de différentiel Type of differential limitation

f) Refroidisseur d'huile Oil cooler

Type Type

	Avant / Front	Arrière / Rear								
d) Type de limitation de différentiel	<u>X X X X</u>	<u>X X X X</u>								
f) Refroidisseur d'huile	<table border="1" style="display: inline-table;"> <tr><td>oui</td><td>non</td></tr> <tr><td>yes</td><td>no</td></tr> </table>	oui	non	yes	no	<table border="1" style="display: inline-table;"> <tr><td>oui</td><td>non</td></tr> <tr><td>yes</td><td>no</td></tr> </table>	oui	non	yes	no
oui	non									
yes	no									
oui	non									
yes	no									
Type	<u>X X X X</u>	<u>X X X X</u>								

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Marque
Make PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

Homologation No

N-5524

7. SUSPENSION / SUSPENSION

702. Ressorts hélicoïdaux
Helical springs

	Avant / Front	Arrière / Rear
a) Matériau Material	<u>Steel</u>	<u>Steel</u>

703. Ressorts à lames
Leaf springs

	Avant / Front	Arrière / Rear
a) Matériau de lame maîtresse Material of main leaf	<u>X X X X</u>	<u>X X X X</u>
Matériau de 2ème lame Material of 2nd leaf	<u>X X X X</u>	<u>X X X X</u>
Matériau de 3ème lame Material of 3rd leaf	<u>X X X X</u>	<u>X X X X</u>
Matériau de 4ème lame Material of 4th leaf	<u>X X X X</u>	<u>X X X X</u>
Matériau de 5ème lame Material of 5th leaf	<u>X X X X</u>	<u>X X X X</u>
Matériau de lame auxiliaire Material of auxiliary leaf	<u>X X X X</u>	<u>X X X X</u>

704. Barres de torsion
Torsion bars

	Avant / Front	Arrière / Rear
c) Matériau Material	<u>X X X X</u>	<u>X X X X</u>

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Make **PROTON**Modèle
Model**WIRA 1.6XLi (C98S)**
PERSONA 1.6XLi (C98S)**N-5524****706. Stabilisateur**
Stabilisera) Longueur efficace
Effective length1310 mm +/-1%b) Diamètre efficace
Effective diameter23 mmc) Matériau
MaterialSteel**Arrière / Rear**1475 mm +/-1%13 mmSteelXI) Dessin ou photo du stabilisateur avant
Drawing or photo of front stabiliserXI) Dessin ou photo du stabilisateur arrière
Drawing or photo of rear stabiliser

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Marque / Make: PROTON

Modèle / Model:

WIRA 1.6XLi (C98S)
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Homologation No

N-5524

8. TRAIN ROULANT / RUNNING GEAR

801. Roues / Wheels	Avant / Front	Arrière / Rear	Secours / Spare
a) Diamètre / Diameter	14"	14"	14"
	∅ 355.6 mm	∅ 355.6 mm	∅ 355.6 mm
b) Largeur / Width	5.5"	5.5"	5.5"
	139.7 mm	139.7 mm	139.7 mm

802. Emplacement de la roue de secours / Location of the spare wheel

Rear Trunk Compartment

EE) Roue de secours dans son emplacement / Spare wheel in its location



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Model

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N - 5524

9. CARROSSERIE / BODYWORK

901. Intérieur
Interior

c) Climatisation
Air conditioning

oui	non
yes	no

d) Sièges
Seats

d1) Type des sièges arrière
Type of rear seats

Bench

d2) Appuie-tête
Headrest

Avant / Front	Arrière / Rear								
<table border="1"> <tr><td>oui</td><td>non</td></tr> <tr><td>yes</td><td>no</td></tr> </table>	oui	non	yes	no	<table border="1"> <tr><td>oui</td><td>non</td></tr> <tr><td>yes</td><td>no</td></tr> </table>	oui	non	yes	no
oui	non								
yes	no								
oui	non								
yes	no								

d4) Siège arrière rabattable
Rear seat can be folded

oui	non
yes	no

e) Plage arrière
Rear ledge

oui	non
yes	no

e1) Matériau
Material

Paper hard board, Carpet

902. Extérieur
Exterior

n) Essuie-glace arrière
Rear wiper

oui	non
yes	no

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FEDERATION INTERNATIONALE
DU SPORT AUTOMOBILE

Homologation No

A-5524

Groupe A/B
Group

FICHE D'HOMOLOGATION CONFORME A L'ANNEXE J DU CODE SPORTIF INTERNATIONAL
HOMOLOGATION FORM IN ACCORDANCE WITH APPENDIX J OF THE INTERNATIONAL SPORTING CODE

Homologation valable à partir du
Homologation valid as from

01 JUL. 1994

A) Voiture vue de 3/4 avant
Car seen from 3/4 front

B) Voiture vue de 3/4 arrière
Car seen from 3/4 rear



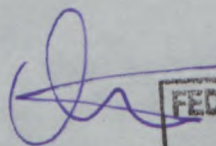
1. GENERALITES / GENERAL

101. Constructeur PERUSAHAAN OTOMOBIL NASIONAL BERHAD
Manufacturer
102. Dénomination(s) commerciale(s) - Modèle et type PROTON WIRA 1.6XLi (C98S)
Commercial name(s) - Model and type PROTON PERSONA 1.6XLi (C98S)
103. Cylindrée 1597 cm³ Cylindrée corrigée XXXX X XXXX = XXXX cm³
Cylinder capacity Corrected cylinder capacity
104. Mode de construction : a) Mode :

séparée	monocoque
separate	unitary construction

Type of car construction : Type
- b) Matériau du châssis / coque Steel
Material of chassis / bodyshell
105. Nombre de volumes 3
Number of volumes
106. Nombre de places 5
Number of places

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Make

PROTON

Modèle
Model

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PERSONA 1.6XLi (C98S)

Homologation No

A-5524

2. DIMENSIONS, POIDS / DIMENSIONS, WEIGHT

202. Longueur hors-tout Overall length 4360 mm +/- 1 %
203. Largeur hors-tout Overall width 1690 mm +/- 1 %
- Endroit de mesure Where measured At Front Axle
204. Largeur de carrosserie Width of bodywork
- a) A la hauteur de l'axe avant At front axle 1695 mm +/- 1 %
- b) A la hauteur de l'axe arrière At rear axle 1680 mm +/- 1 %
206. Empattement Wheelbase 2500 mm +/- 1 %
209. Porte-à-faux Overhang
- a) Avant Front 820 mm +/- 1 %
- b) Arrière Rear 1040 mm +/- 1 %
210. Distance "G" (volant - paroi de séparation arrière) Distance "G" (steering wheel - rear bulkhead) 1575 mm

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Model

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PERSONA 1.6XLi (C98S)

Homologation No

A-5524

3. MOTEUR / ENGINE

(en cas de moteur rotatif, voir Art. 335 sur fiche additionnelle)
(in case of rotative engine, see Art. 335 on additional form)

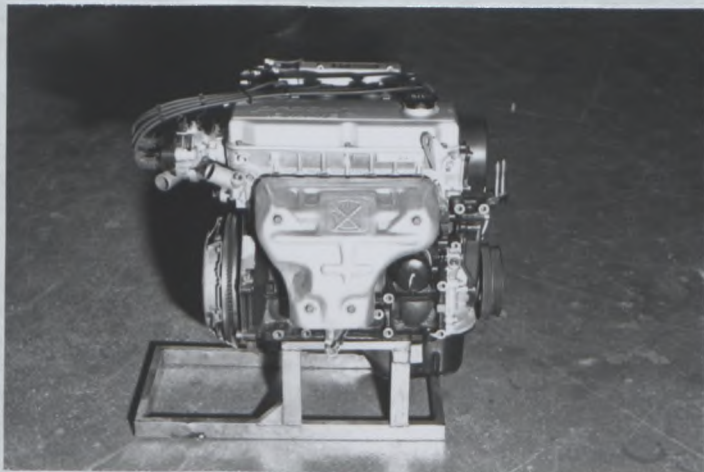
301. Emplacement et position du moteur
Location and position of the engine

Inclination (R/L) : 0°
Front, Transversal, Vertical Angle : 10° towards the front

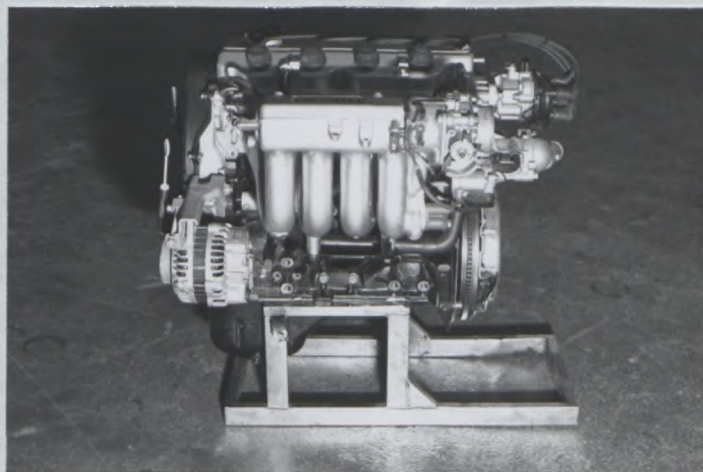
303. Cycle
Cycle

4 Otto

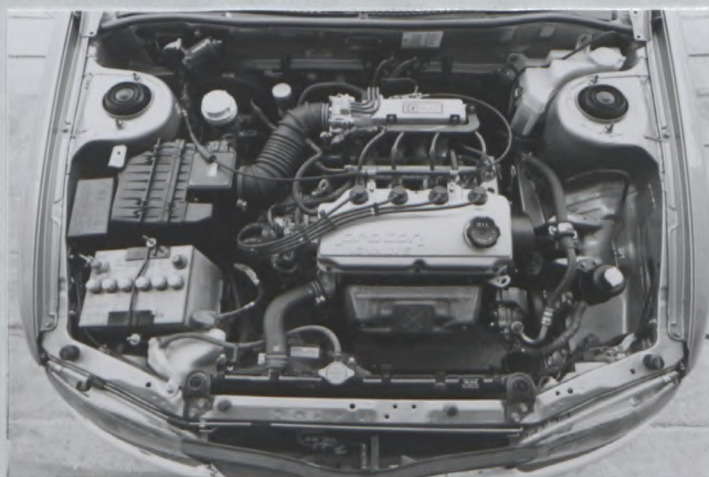
C) Profil droit du moteur déposé
Right hand view of dismounted engine



D) Profil gauche du moteur déposé
Left hand view of dismounted engine



E) Moteur dans son compartiment
Engine in its compartment



304. Suralimentation
Supercharging

oui	non
yes	no

(en cas de suralimentation, voir Art. 334 sur fiche additionnelle)
(in case of supercharging, see Art. 334 on additional form)

Type et nombre de compresseurs
Type and number of compressors

X X X X

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Marque / Make PROTON

Modèle / Model WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

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305. Nombre et disposition des cylindres / Number and layout of cylinders 4 In-Line

306. Mode de refroidissement / Type of cooling Liquid

307. Cylindrée / Cylinder capacity
a) Unitaire / Unitary 399.25 cm³ b) Totale / Total 1597.5 cm³

c) Totale max. autorisée / Max. total allowed 1599.5 cm³

INDICATION NON VALABLE EN GROUPE N
NOT VALID FOR GROUP N

312. Matériau du bloc-cylindre / Cylinder block material Cast Iron

313. Chemises : / Sleeves :
a)

oui	non
yes	no

c)

humides	sèches
wet	dry

314. Alésage / Bore Ø 81.0 mm

315. Alésage maximum autorisé / Maximum bore allowed Ø 81.05 mm

INDICATION NON VALABLE EN GROUPE N
NOT VALID FOR GROUP N

316. Course / Stroke 77.5 mm

318. Bielle : / Connecting rod :
a) Matériau / Material Steel b) Type de la tête de bielle / Big end type Separate

c) Diamètre intérieur de la tête de bielle (sans coussinets) / Interior diameter of the big end (without shell bearings) Ø 48.0 mm

d) Longueur entre axes / Length between the axes 120.0 +/- 0.1 mm e) Poids minimum / Minimum weight 430 g

319. Vilebrequin / Crankshaft
a) Type de construction / Type of manufacture One Piece

b) Matériau / Material Steel c)

coulé	forgé
cast	forged

 d) Nombre de paliers / Number of bearings 5

e) Type de paliers / Type of bearings Plain f) Diamètre des paliers / Diameter of bearings Ø 50.0 mm

g) Matériau des chapeaux de paliers / Bearing caps material Cast-iron h) Poids minimum du vilebrequin nu / Minimum weight of bare crankshaft 12400 g

320. Volant moteur : / Flywheel :

	Boîte manuelle/Manual gearbox	Boîte automatique/Automatic gearbox
a) Matériau / Material	<u>Cast iron</u>	<u>X X X X</u>
b) Poids minimum avec couronne de démarreur / Minimum weight with starter ring	<u>6600</u> g	<u>X X X X</u> g
Utilisable uniquement avec boîte de vitesses automatique Only usable with an automatic gearbox		

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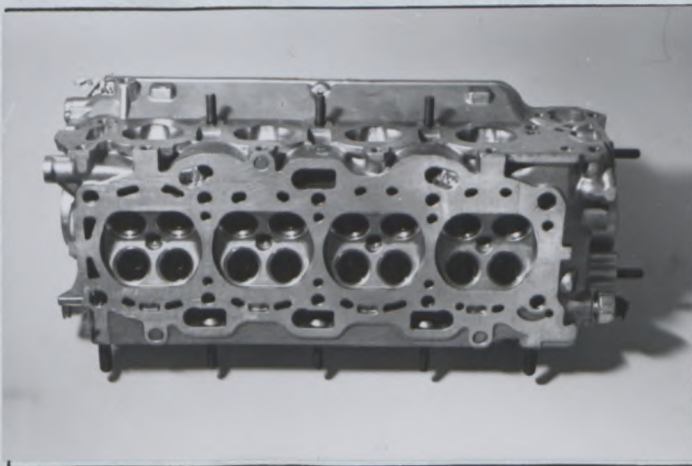
Homologation No

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321. Culasse : a) Nombre 1 b) Matériau Aluminum alloy
Cylinderhead : Number Material
- e) Angle entre soupape d'admission et la verticale 28.5°
Angle between intake valve and vertical
- f) Angle entre soupape d'échappement et la verticale 20.0°
Angle between exhaust valve and vertical

F) Culasse nue
Bare cylinderhead

G) Chambre de combustion
Combustion chamber



323. Alimentation par carburateur : a) Nombre de carburateurs X X X X
Fuel feed by carburettor : Number of carburettors
- b) Type X X X X c) Marque et modèle X X X X
Type Make and model
- d) Nombre de passages de gaz par carburateur X X X X
Number of mixture passages per carburettor
- e) Diamètre maximum de la sortie de gaz du carburateur X X X X mm
Maximum diameter of the carburettor mixture exit port
- f) Diamètre du diffuseur au point d'étranglement maximum X X X X +/- 0.25 mm
Diameter of the venturi at the narrowest point

H) Carburateur(s)
Carburettor(s)

X X X X

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324. Alimentation par injection : a) Marque MITSUBISHI b) Modèle ECI-MULTI
Fuel feed by injection : Make Model

c) Mode de dosage du carburant :
Kind of fuel measurement :

mécanique mechanical	électronique electronic	hydraulique hydraulic
---	----------------------------	--

d) Dimensions du conduit d'admission au niveau du papillon ou de la guillotine ∅ 50.0 +/- 0.25 mm
Dimensions of intake pipe at the throttle or slide location

e) Nombre de sorties effectives de carburant 4
Number of effective fuel outlets

f) Position des injecteurs
Position of injectors

f1)

Collecteur Manifold	Culasse Cylinderhead
------------------------	---

g) Capteurs du système d'injection Water temperature sensor, Air temperature sensor,
Sensors of injection system

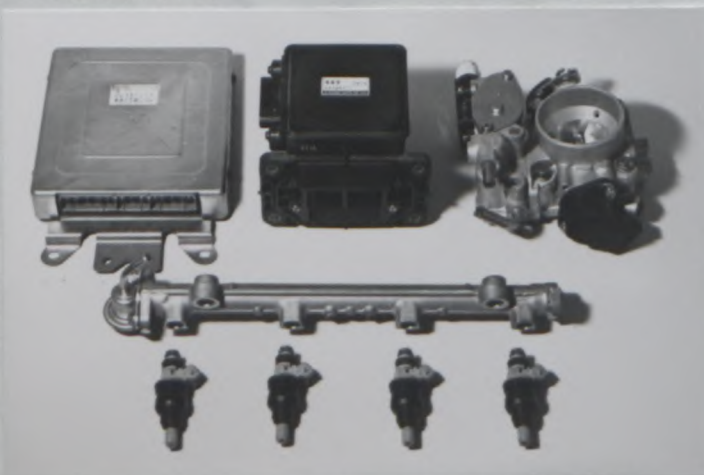
Pressure sensor, Throttle position sensor, Karman vortex type Air flow meter,

Crank angle sensor, Cam angle sensor, Knock sensor

(Oxygen sensor fitted to PERSONA 1.6XLi model only)

h) Actionneurs du système d'injection Injectors, Pressure regulator
Actuators of injection system

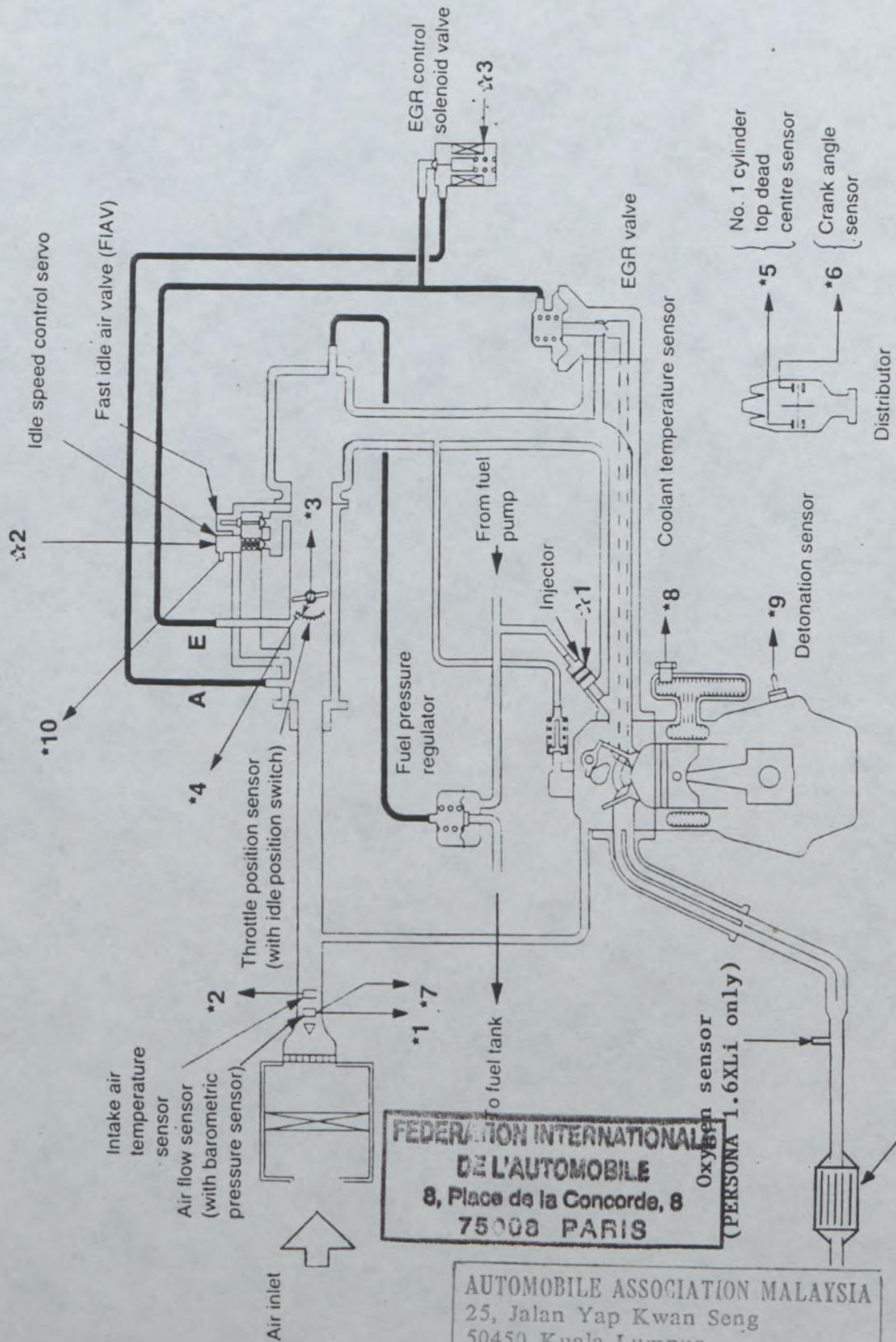
H) Système d'injection
Injection system



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XIV LOCALISATION DES CAPTEURS ET ACTIONNEURS / LOCATION OF SENSORS AND ACTUATORS :



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Marque PROTON
Make

Modèle PERSONA 1.6XLi (C98S)
Model

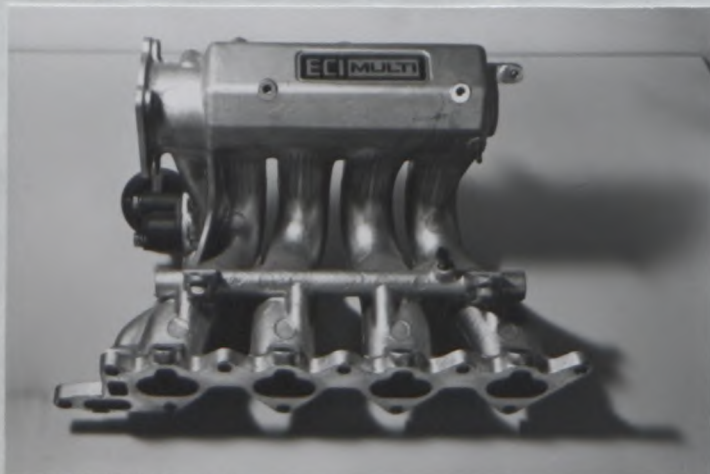
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Homologation No

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325. Arbre à cames : a) Nombre 1 b) Emplacement TOP (SOHC)
Camshaft : Number Location
- c) Système d'entraînement Notched Belt d) Nombre de paliers par arbre 5
Drive system Number of bearings per shaft
- f) Système de commande de soupapes Rocker Arm
Type of valve operation
327. Admission : a) Matériau du collecteur Aluminum Alloy
Intake : Material of manifold
- b) Nombre d'éléments du collecteur 1 c) Nombre de soupapes par cylindre 2
Number of manifold elements Number of valves per cylinder
- d) Diamètre maximum de soupape ∅ 30.2 mm e) Diamètre de tige de soupape dans guide ∅ 6.15 +0/-0.2 mm
Maximum diameter of the valve Diameter of the valve stem in guide
- f) Longueur de soupape 110.15 +/- 1.5 mm g) Type des ressorts de soupape Helical
Valve length Type of valve springs
328. Echappement : a) Matériau du collecteur Cast-iron
Exhaust : Material of manifold
- b) Nombre d'éléments du collecteur 1 c) Dimensions intérieures de sortie collecteur ∅ 44.0 ± 2.0 mm
Number of manifold elements Internal dimensions of manifold exit
- d) Nombre de soupapes par cylindre 2 e) Diamètre maximum de soupape ∅ 27.2 mm
Number of valves per cylinder Maximum diameter of the valve
- f) Diamètre de tige de soupape dans guide ∅ 6.15 +0/-0.2 mm g) Longueur de soupape 113.7 +/- 1.5 mm
Diameter of the valve stem in guide Valve length
- h) Type des ressorts de soupape Helical
Type of valve springs

I) Collecteur d'admission
Intake manifold



J) Collecteur d'échappement
Exhaust manifold



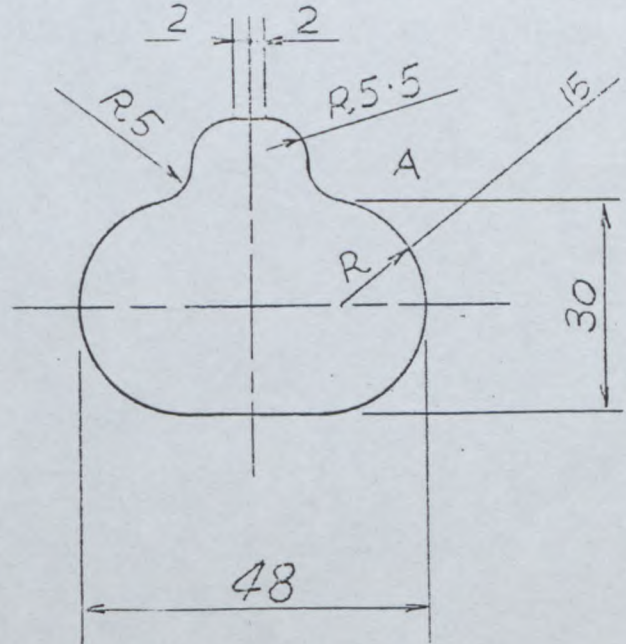
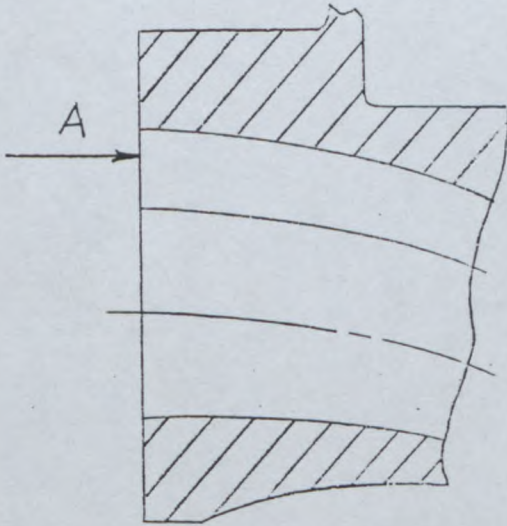
∅ 44 ± 2.0 mm

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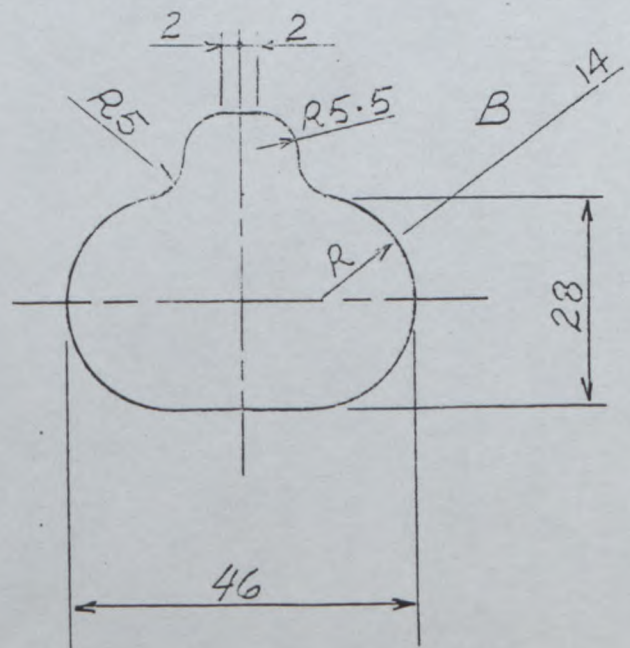
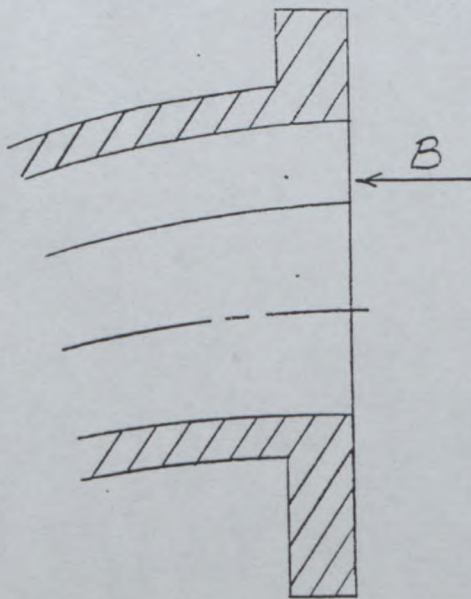
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Dessins des orifices du moteur - tolérances sur les dimensions : -2%, +4%
Drawings of engine ports - tolerances on dimensions : -2%, +4%

I) Culasse, face collecteur / Cylinderhead, manifold side



II) Collecteur, côté culasse / Manifold, cylinderhead side



ADMISSION/INTAKE

Marque
Make

PROTON

Modèle
Model

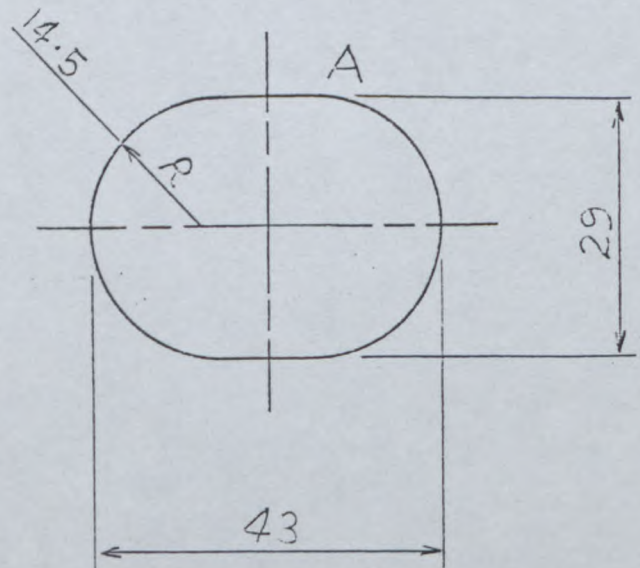
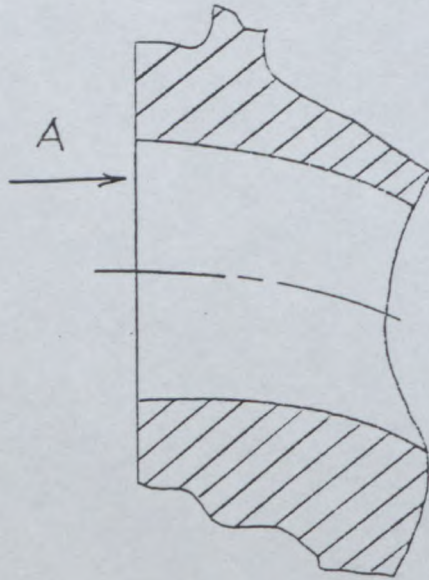
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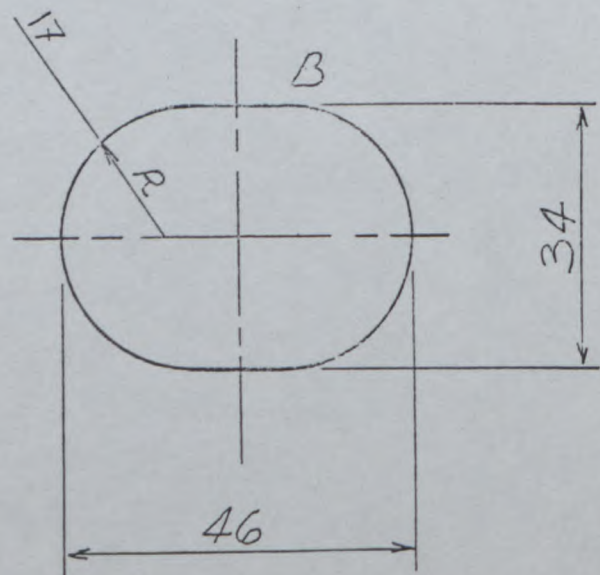
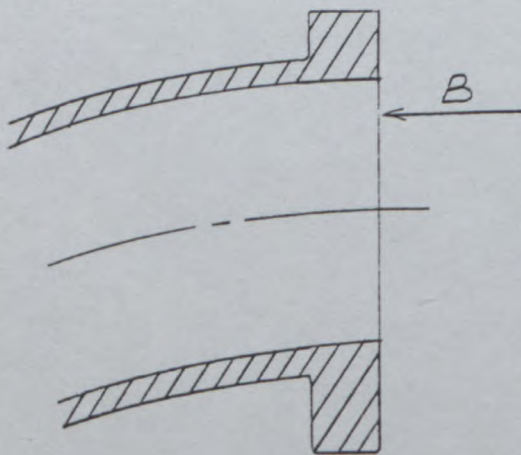
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Dessins des orifices du moteur - tolérances sur les dimensions : -2%, +4%
Drawings of engine ports - tolerances on dimensions : -2%, +4%

III) Culasse, face collecteur / Cylinderhead, manifold side



IV) Collecteur, côté culasse / Manifold, cylinderhead side



Marque PROTON
 Make _____

Modèle WIRA 1.6XLi (C98S)
 Model PERSONA 1.6XLi (C98S)

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330. Système d'allumage :
 Ignition system :

b) Nombre de bougies par cylindre 1
 Number of plugs per cylinder _____

c) Nombre de distributeurs 1
 Number of distributors _____

333. Système de lubrification : a) Type Wet Sump
 Lubrication system : Type _____

b) Nombre de pompes à huile 1
 Number of oil pumps _____

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4. CIRCUIT DE CARBURANT / FUEL CIRCUIT

401. Réservoir : a) Nombre 1
Fuel tank : Number 1
- b) Emplacement Under the rear seat
Location Under the rear seat
- c) Matériau Steel
Material Steel

5. EQUIPEMENT ELECTRIQUE / ELECTRICAL EQUIPMENT

501. Batteries : a) Nombre 1 b) Tension 12 volts
Batteries : Number 1 Tension 12

6. TRANSMISSION / POWER TRAIN

601. Roues motrices : avant

oui	non
yes	no

 arrière

oui	non
yes	no

Driven wheels : front rear
602. Embrayage : b) Système de commande Hydraulic c) Nombre de disques 1
Clutch : Control system Number of plates
603. Boîte de vitesses : a) Emplacement Engine Compartment of the car
Gearbox : Location
- b) Marque "manuelle" MITSUBISHI c) Marque "automatique" X X X X
"Manual" make "Automatic" make
- d) Type et emplacement de commande Mechanical, on floor
Type and location of control

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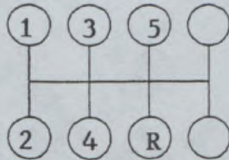
e) Rappports Ratios

	Manuelle Manual			
	nombre de dents number of teeth	rapport ratio	constant	synchro
1	37/12	3.083	X	X
2	37/19	1.947	X	X
3	36/28	1.285	X	X
4	31/33	0.939	X	X
5	28/37	0.756	X	X
6	-	-	-	-
AR / R	37/12	3.083	X	
Constante Constant	34/31	1.096		

	Automatique Automatic		
	nombre de dents number of teeth	rapport ratio	synchro
1			
2			
3			
4			
5			
AR/R			

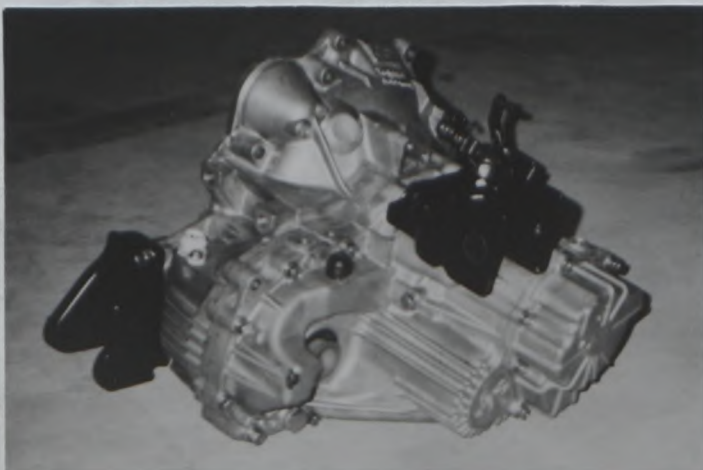
f) Grille de vitesses

Gear change gate



g) Type de lubrification By Splash
 Type of lubrication _____

S) Carter de boîte de vitesses et cloche d'embrayage
 Gearbox casing and clutch bell housing



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604. Boîte de transfert / différentiel central : a) Rapports
Transfer box / central differential : Ratios X X X X
- b) Nombres de dents
Numbers of teeth X X X X
- c) Système de commande de boîte de transfert
Control system of transfer box X X X X
- d) Type de différentiel central
Type of central differential X X X X

605. Couple final
Final drive

	Avant / Front	Arrière / Rear
a) Type de couple final Type of final drive	Helical Gear	X X X X
b) Rapport Ratio	3.941	X X X X
c) Nombre de dents Number of teeth	67/17	X X X X
e) Type de lubrification Type of lubrication	Oil Bath	X X X X

606. Arbres : a) Type des arbres longitudinaux
Shafts : Type of longitudinal shafts X X X X
- b) Matériau des arbres longitudinaux
Material of longitudinal shafts X X X X
- c) Type des demi-arbres transversaux
Type of transversal half-shafts Ball joint + Tripod joint
- d) Matériau des demi-arbres transversaux
Material of transversal half-shafts Steel

XII) CHAÎNE CINÉMATIQUE (4 roues motrices) / KINEMATIC TRAIN (4 wheel drive) :

X X X X

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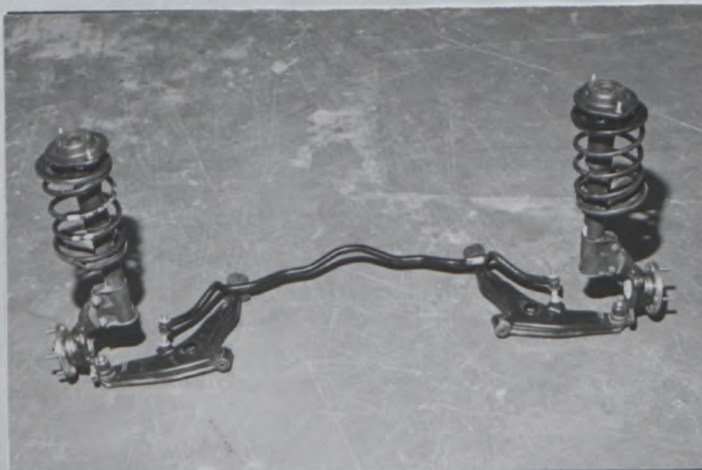
7. SUSPENSION / SUSPENSION

	Avant / Front	Arrière / Rear								
701. Généralités General	Independent McPherson with Coil spring	Independent Multi link with trailing arm and coil spring								
a) Type de suspension Type of suspension										
702. Ressorts hélicoïdaux Helicoïdal springs	<table border="1"> <tr><td>oui</td><td>non</td></tr> <tr><td>yes</td><td>no</td></tr> </table>	oui	non	yes	no	<table border="1"> <tr><td>oui</td><td>non</td></tr> <tr><td>yes</td><td>no</td></tr> </table>	oui	non	yes	no
oui	non									
yes	no									
oui	non									
yes	no									
703. Ressorts à lames Leaf springs	<table border="1"> <tr><td>oui</td><td>non</td></tr> <tr><td>yes</td><td>no</td></tr> </table>	oui	non	yes	no	<table border="1"> <tr><td>oui</td><td>non</td></tr> <tr><td>yes</td><td>no</td></tr> </table>	oui	non	yes	no
oui	non									
yes	no									
oui	non									
yes	no									
704. Barres de torsion Torsion bars	<table border="1"> <tr><td>oui</td><td>non</td></tr> <tr><td>yes</td><td>no</td></tr> </table>	oui	non	yes	no	<table border="1"> <tr><td>oui</td><td>non</td></tr> <tr><td>yes</td><td>no</td></tr> </table>	oui	non	yes	no
oui	non									
yes	no									
oui	non									
yes	no									

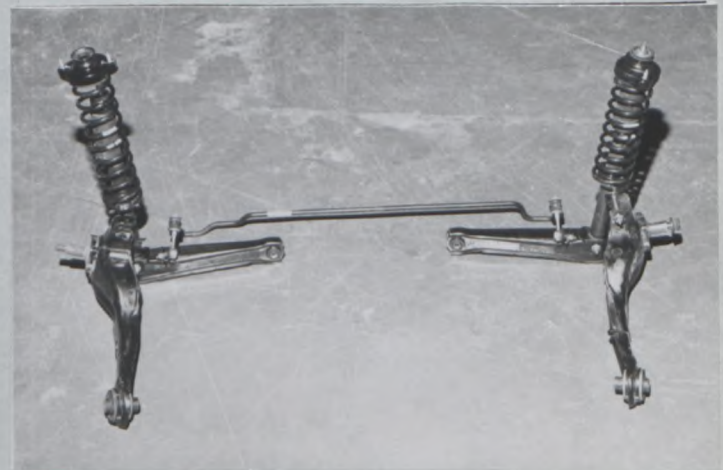
705. Autre type de suspension : *Voir description sur fiche additionnelle*
 Other type of suspension : *See description on additional form*

	Avant / Front	Arrière / Rear
707. Amortisseurs : Shock absorbers :		
a) Nombre par roue Number per wheel	<u>1</u>	<u>1</u>
b) Type Type	<u>Telescopic</u>	<u>Telescopic</u>
c) Principe de fonctionnement Principle of operation	<u>Hydraulic</u>	<u>Hydraulic</u>

T) Train avant complet déposé
 Complete dismantled front axle



U) Train arrière complet déposé
 Complete dismantled rear axle



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8. TRAIN ROULANT / RUNNING GEAR

	Avant / Front	Arrière / Rear
801. Roues : Wheels :		
a) Diamètre Diameter	<u>14</u> " / <u>Ø 355.6</u> mm	<u>14</u> " / <u>Ø 355.6</u> mm

803. Freins : Brakes :	a) Système de freinage Braking system	<u>Hydraulic</u>
b) Nombre de maître-cylindres Number of master cylinders	<u>Tandem</u>	b1) Alésages Bores <u>Ø 22.22</u> mm / <u>Ø 22.22</u> mm
c) Servo-frein Servo-brakes	<input type="checkbox"/> oui <input checked="" type="checkbox"/> yes	c1) Marque et type Make and type <u>JIDOSHAKIKI, Vacuum</u>
d) Régulateur de freinage Braking regulator	<input type="checkbox"/> oui <input checked="" type="checkbox"/> yes	d1) Emplacement Location <u>Under the master cylinder in the engine compartment.</u>

	Avant / Front	Arrière / Rear
e) Nombre de cylindres par roue Number of cylinders per wheel	<u>1</u>	<u>1</u>
e1) Alésage Bore	<u>Ø 53.97</u> mm	<u>Ø 30.16</u> mm
f) Freins à tambours : Drum brakes :		
f1) Diamètre intérieur Internal diameter	<u>X X X X</u> +/- 1,5 mm	<u>X X X X</u> +/- 1,5 mm
f2) Nombre de garnitures par roue Number of linings per wheel	<u>X X X X</u>	<u>X X X X</u>
f3) Longueur développée des garnitures Developed length of linings	<u>X X X X</u> +/- 1,5 mm	<u>X X X X</u> +/- 1,5 mm
f4) Largeur des garnitures Width of the linings	<u>X X X X</u> +/- 1 mm	<u>X X X X</u> +/- 1 mm
g) Freins à disques : Disc brakes :		
g1) Nombre de plaquettes par roue Number of pads per wheel	<u>2</u>	<u>2</u>
g2) Nombre d'étriers par roue Number of calipers per wheel	<u>1</u>	<u>1</u>
g3) Matériau des étriers Caliper material	<u>Cast iron</u>	<u>Cast iron</u>
g4) Epaisseur du disque neuf Thickness of new disc	<u>24</u> +/- 1 mm	<u>10</u> +/- 1 mm
g5) Diamètre extérieur du disque External diameter of the disc	<u>256</u> +/- 1,5 mm	<u>260</u> +/- 1,5 mm
g6) Diamètre extérieur de frottement des plaquettes External diameter of pads rubbing surface	<u>254</u> +/- 1,5 mm	<u>258</u> +/- 1,5 mm

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	Avant / Front	Arrière / Rear								
g7) Diamètre intérieur de frottement des plaquettes Internal diameter of pads' rubbing surface	166 +/- 1.5 mm	195 +/- 1.5 mm								
g8) Longueur hors-tout des plaquettes Overall length of the pads	112 +/- 1.5 mm	80 +/- 1.5 mm								
g9) Disques ventilés Ventilated discs	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">oui</td> <td style="padding: 2px;">non</td> </tr> <tr> <td style="padding: 2px;">yes</td> <td style="padding: 2px;">no</td> </tr> </table>	oui	non	yes	no	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">oui</td> <td style="padding: 2px;">non</td> </tr> <tr> <td style="padding: 2px;">yes</td> <td style="padding: 2px;">no</td> </tr> </table>	oui	non	yes	no
oui	non									
yes	no									
oui	non									
yes	no									

h) Frein de stationnement : Parking brake : _____
 h1) Système de commande : Cable
 Control system _____

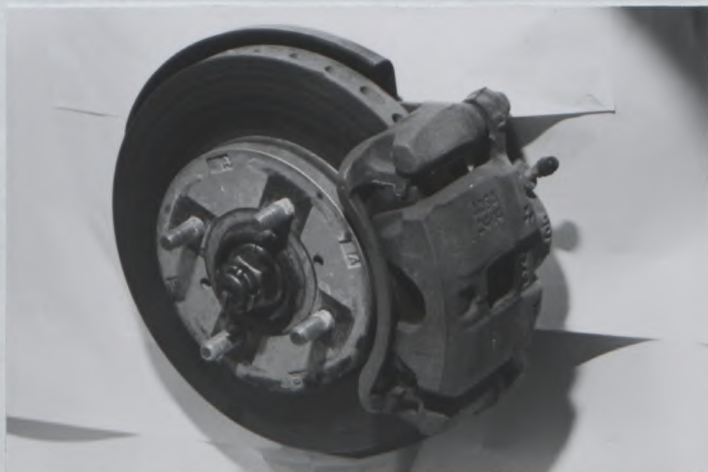
h2) Emplacement de commande : Between front seat
 Location of lever _____

h3) Effet sur roues :

Avant	Arrière
Front	Rear

 On which wheels

V) Frein avant
Front brake



W) Frein arrière
Rear brake



804. Direction :
Steering :

a) Type
Type

Rack & Pinion

Arrière / Rear

X X X X

b) Servo-assistance
Power assisted

oui	non
yes	no

oui	non
yes	no

Type
Type

Hydraulic

X X X X

**FEDERATION INTERNATIONALE
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Marque PROTON
 Make _____

Modèle WIRA 1.6XLi (C98S)
 Model PERSONA 1.6XLi (C98S)

Homologation No

A - 5524

9. CARROSSERIE / BODYWORK

901. Intérieur : a) Ventilation

oui	non
yes	no

b) Chauffage

oui	non
yes	no

f) Toit ouvrant optionnel

oui	non
yes	no

f1) Type X X X X

f2) Système de commande X X X X

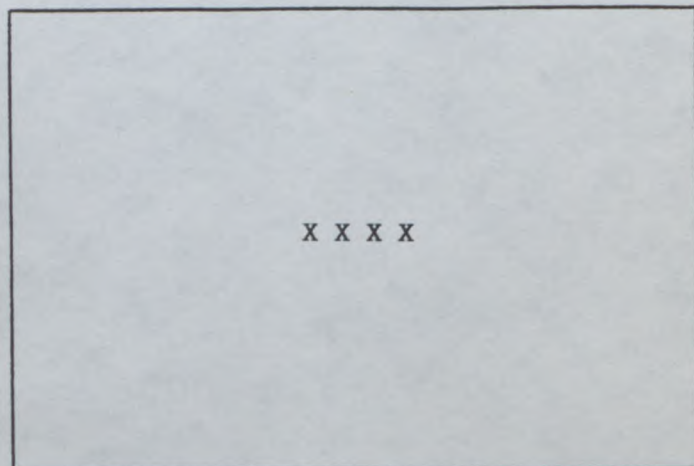
Avant / Front	Arrière / Rear
<u>Manual</u>	<u>Manual</u>

g) Système d'ouverture des vitres latérales
 Opening system for side windows

X) Tableau de bord
 Dashboard



Y) Toit ouvrant
 Sunroof



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Marque PROTON
 Make _____

Modèle WIRA 1.6XLi (C98S)
 Model PERSONA 1.6XLi (C98S)

Homologation No

A-5524

902. Extérieur :
 Exterior :

a) Nombre de portes 4
 Number of doors _____

b) Hayon oui non
 Tailgate yes no

Avant / Front	Arrière / Rear
<u>Steel</u>	<u>Steel</u>

c) Matériau des portières
 Door material

d) Matériau du capot avant Steel
 Front bonnet material

e) Matériau du capot arrière / hayon Steel
 Rear bonnet / tailgate material

f) Matériau de la carrosserie Steel
 Bodywork material

h) Matériau de lunette arrière Safety Glass
 Rear window material

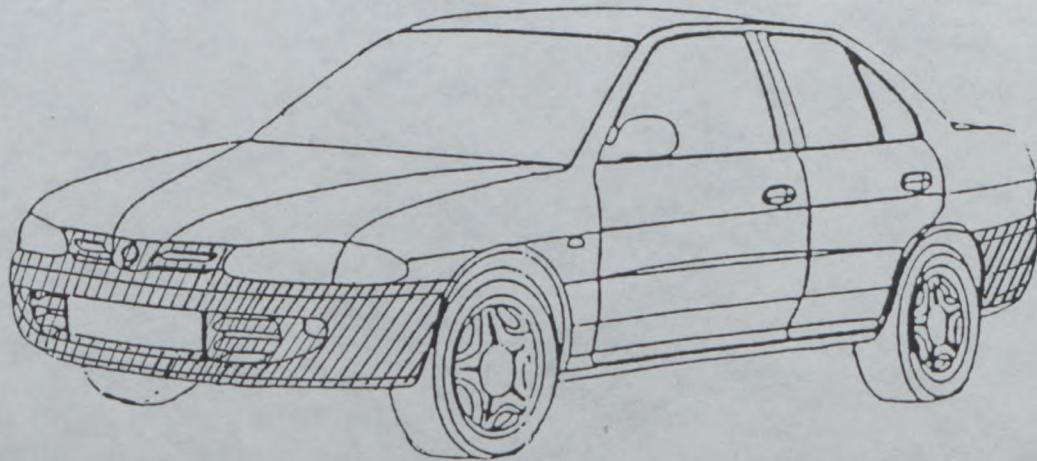
i) Matériau des glaces de custode Safety Glass
 Rear quarter window material

Avant / Front	Arrière / Rear
<u>Safety Glass</u>	<u>Safety Glass</u>
<u>Plastics (Modified Poly-Propylene)</u>	<u>Plastics (Modified Poly-Propylene)</u>

k) Matériau des vitres latérales
 Side window material

l) Matériau du pare-choc
 Material of bumper

XIII) PARTIES DE CARROSSERIE SYNTHETIQUES / SYNTHETIC PARTS OF THE BODY :



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**FEDERATION INTERNATIONALE
 DE L'AUTOMOBILE**
 8, Place de la Concorde, 8
 75008 PARIS

Marque
Make

PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

Homologation No

A-5524

INFORMATIONS COMPLEMENTAIRES / COMPLEMENTARY INFORMATION :

X X X X

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2425212 (Breakdown Services)

FEDERATION INTERNATIONALE
DE L'AUTOMOBILE
8, Place de la Concorde, 8
75008 PARIS



FEDERATION INTERNATIONALE DU SPORT AUTOMOBILE

Homologation No
A-5524
Extension No

Groupe / Group **A/B/TT**

CERTIFICAT DE DIMENSIONS INTERIEURES
CERTIFICATE FOR INTERIOR DIMENSIONS

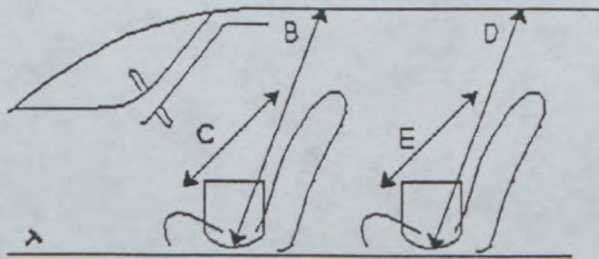
PERUSAHAAN OTOMOBIL NASIONAL
BERHAD

PROTON WIRA 1.6XLi (C98S)
PROTON PERSONA 1.6XLi (C98S)

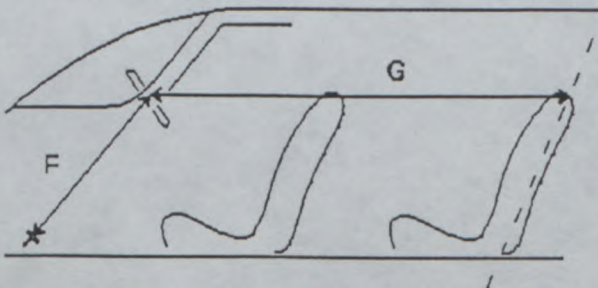
Véhicule: Constructeur
Vehicle: Manufactureur

Modèle et type
Model and type

Dimensions intérieures comme définies par le Règlement d'Homologation
Interior dimensions as defined by the Homologation Regulations



B	(Hauteur sur sièges avant) (Height above front seats)	<u>1015</u> mm
C	(Largeur aux sièges avant) (Width at front seats)	<u>1240</u> mm
D	(Hauteur sur sièges arrière) (Height above rear seats)	<u>935</u> mm
E	(Largeur aux sièges arrière) (Width at rear seats)	<u>1375</u> mm



F	(Volant - Pédale de frein) (Steering wheel - Brake pedal)	<u>655</u> mm
G	(Volant - paroi de séparation arrière) (Steering wheel - rear bulkhead)	<u>1575</u> mm
H	= F + G =	<u>2230</u> mm

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FEDERATION INTERNATIONALE
DE L'AUTOMOBILE
8, Place de la Concorde, 8
75008 PARIS



FEDERATION INTERNATIONALE
DU SPORT AUTOMOBILE

Homologation No

A-5524

Groupe A/B/N/T1
Group

Extension No

01/01VO

FICHE D'EXTENSION D'HOMOLOGATION POUR ARMATURE DE SECURITE
FORM OF HOMOLOGATION EXTENSION FOR SAFETY CAGE

VO Variante option / Option variant

Véhicule: Constructeur PERUSAHAAN OTOMOBIL NASIONAL
Vehicule: Manufactureur BERHAD

Modèle et type PROTON WIRA 1.6XLi (C98S)
Model and type PROTON PERSONA 1.6XLi (C98S)

Homologation valable à partir du 01 JUL. 1994
Homologation valid as from

	Arceau principal Main rollbar	Entretoise longitudinale Longitudinal strut	Entretoise diagonale Diagonal Strut	Arceau avant Front rollbar
Matériau Material	Steel	Steel	Steel	Steel
Diamètre extérieur Exterior diameter	38.1 mm	38.1 mm	38.1 mm	38.1 mm
Epaisseur de paroi Wall thickness	2.4 mm	1.6 mm	1.6 mm	2.4 mm
Limite élastique Elastic limit	76.3 kg/mm ²	70.0 kg/mm ²	70.0 kg/mm ²	76.3 kg/mm ²
Résistance à la traction Tensile strength	84.1 kg/mm ²	77.0 kg/mm ²	77.0 kg/mm ²	84.1 kg/mm ²

Fabricant de l'armature EON MOTORSPORTS
Structure manufacturer

Poids total y compris les fixations 35.0 kg
Total weight including fixations

Armature complète hors de la voiture
Complete structure outside the car

Nous attestons que la présente armature de sécurité répond aux dispositions de l'Annexe J de la FISA, en particulier en ce qui concerne ses implantations, ses connexions, et ses résistances aux contraintes.

We certify that the present safety structure complies with the conditions of the FISA Appendix J, in particular with regard to its attachments, its connections, and its stress resistances.



FEDERATION INTERNATIONALE
DE L'AUTOMOBILE
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75008, PARIS

Signature du représentant du constructeur du véhicule
Signature of the car manufacturer representative

Kisai B Rahmat

KISAI B RAHMAT
Deputy Managing Director
Manufacturing
PROTON.

AUTOMOBILE ASSOCIATION MALAYSIA
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50450 Kuala Lumpur
Tel: 2425777/2425210 (Travel)
2425212 (Breakdown Services)

Marque
Make

PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

Homologation No

A-5524

Extension No

01/01V0

PHOTO No 1 Lateral bar to floor



PHOTO No 2 Lateral bar to A-pillar



PHOTO No 3 Main rollbar to floor

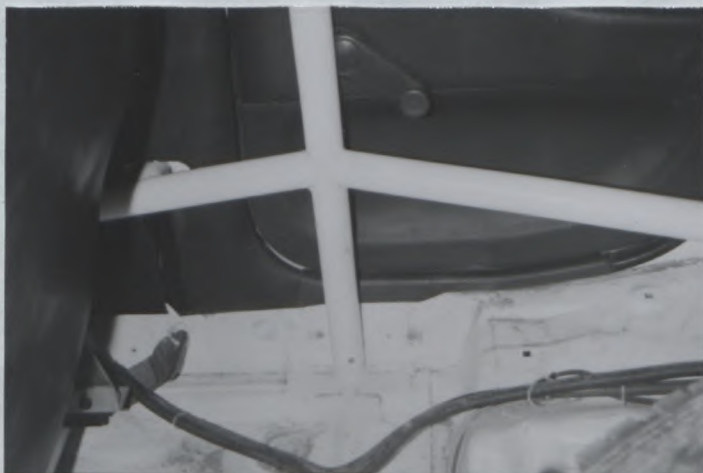


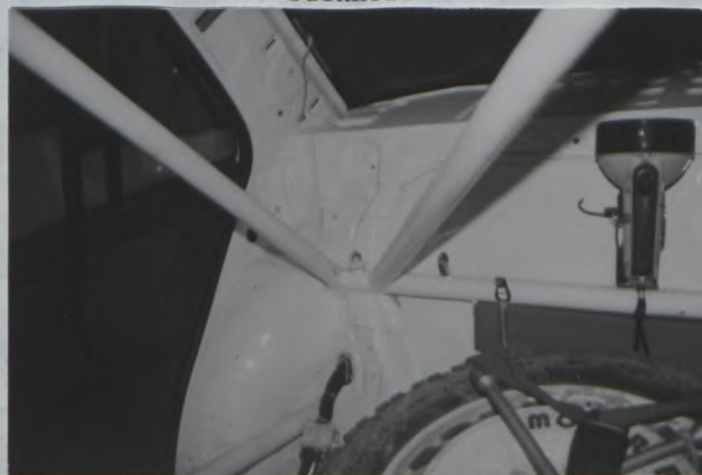
PHOTO No 4 Main rollbar to B-pillar



PHOTO No 5 Main/Lateral/Diagonal bar joint



PHOTO No 6 Rear longitudinal/Diagonal to bulkhead



Marque
Make

PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

Homologation No

A-5524

Extension No

01/01V0

PHOTO No 7 Rear longitudinal to rear turret

PHOTO No 8

Front turret framework
to bulkhead

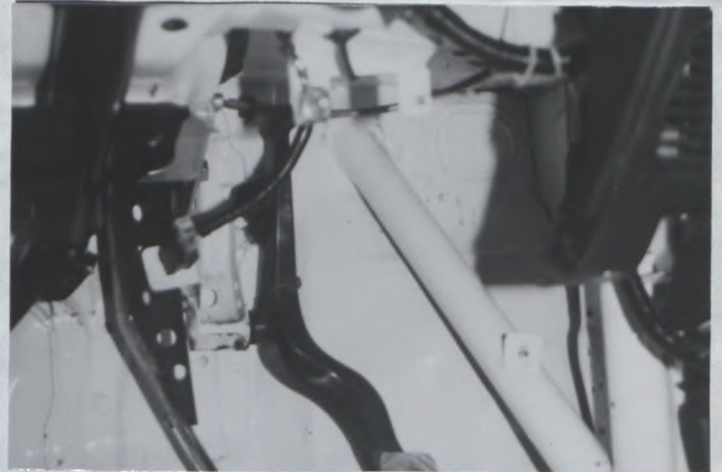


PHOTO No 9 Front framework to turret

PHOTO No

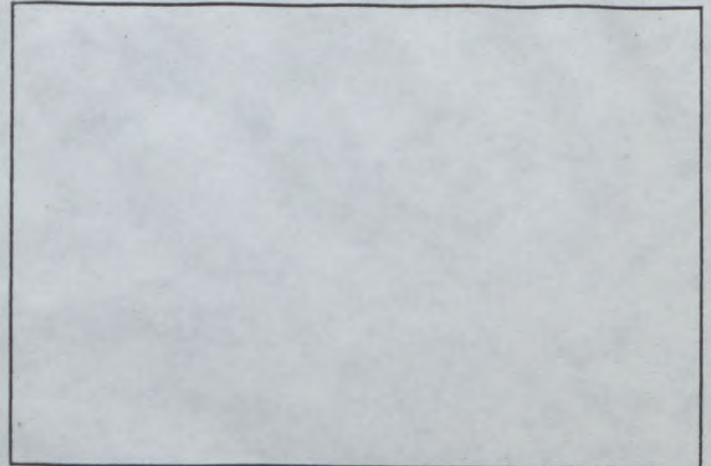
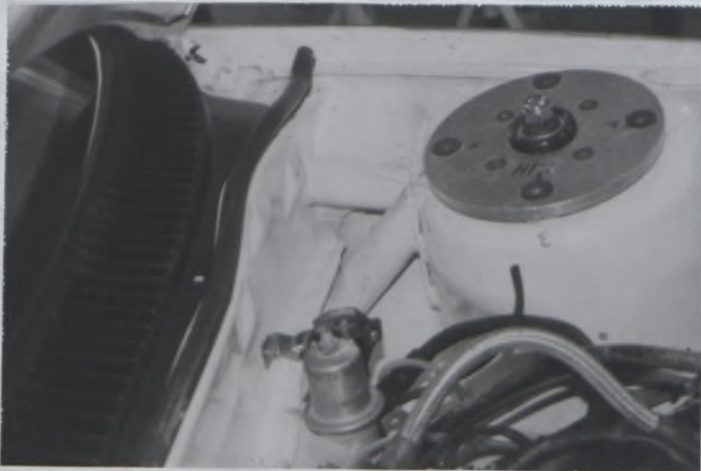
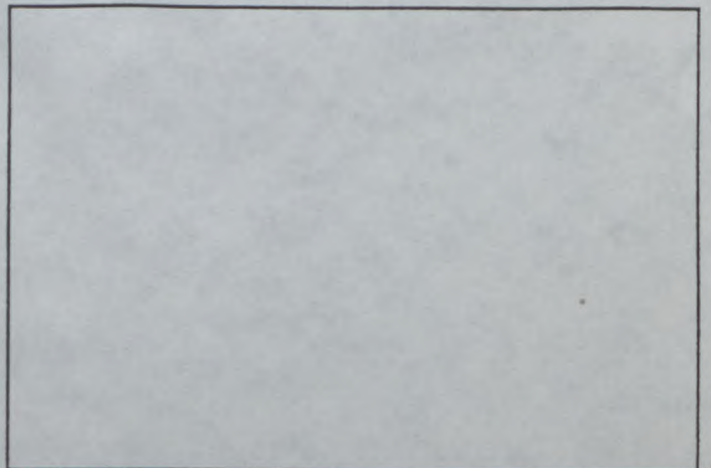
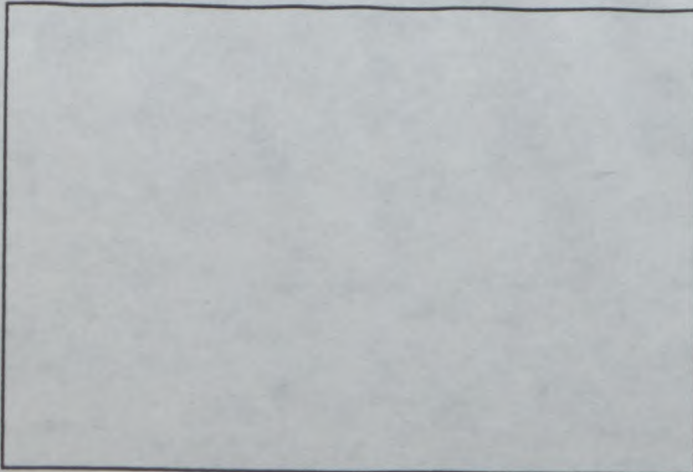


PHOTO No

PHOTO No



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FEDERATION INTERNATIONALE
DE L'AUTOMOBILE
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75008 PARIS



FEDERATION INTERNATIONALE
DU SPORT AUTOMOBILE

Homologation No

A-5524

Groupe **A/B/N/T1**
Group

Extension No

02/02 VO

FICHE D'EXTENSION D'HOMOLOGATION
FORM OF HOMOLOGATION EXTENSION

- ES Evolution sportive du type / Sporting evolution of the type
- ET Evolution normale du type / Normal evolution of the type
- VF Variante de fourniture / Supply variant
- VO Variante option / Option variant
- ER Erratum / Erratum

PERUSAHAAN OTOMOBIL NASIONAL

PROTON WIRA 1.6XLi (C98S)

Véhicule: Constructeur
Vehicle: Manufactureur

BERHAD

Modèle et type
Model and type

PROTON PERSONA 1.6XLi (C98S)

Homologation valable à partir du
Homologation valid as from

01 JUL. 1994

Page ou ext. Page or ext.	Article Article	Description Description																																																		
	603	<p>GEARBOX</p> <p>b) Make : EON MOTORSPORTS</p> <p>d) Type and location : Mechanical, on floor</p> <p>e) Ratios</p> <table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="3">Manual</th> </tr> <tr> <th></th> <th>Number of Teeth</th> <th>Ratio</th> <th>Constant</th> <th>Synchro</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>33/16</td> <td>2.64</td> <td>X</td> <td></td> </tr> <tr> <td>2</td> <td>30/20</td> <td>1.92</td> <td>X</td> <td></td> </tr> <tr> <td>3</td> <td>25/21</td> <td>1.524</td> <td>X</td> <td></td> </tr> <tr> <td>4</td> <td>24/24</td> <td>1.28</td> <td>X</td> <td></td> </tr> <tr> <td>5</td> <td>23/27</td> <td>1.09</td> <td>X</td> <td></td> </tr> <tr> <td>6</td> <td>21/28</td> <td>0.96</td> <td>X</td> <td></td> </tr> <tr> <td>R</td> <td>38/12</td> <td>4.053</td> <td></td> <td></td> </tr> <tr> <td>Constant</td> <td>25/32</td> <td>1.280</td> <td></td> <td></td> </tr> </tbody> </table> <p>f) Gear change gate</p> <p>FEDERATION INTERNATIONALE DE L'AUTOMOBILE 8, Place de la Concorde, 8 75008 PARIS</p> <p>AUTOMOBILE ASSOCIATION MALAYSIA 25, Jalan Yap Kwan Seng 50450 Kuala Lumpur Tel: 2425777/2425210 (Travel) 2425212 (Breakdown Services)</p>			Manual				Number of Teeth	Ratio	Constant	Synchro	1	33/16	2.64	X		2	30/20	1.92	X		3	25/21	1.524	X		4	24/24	1.28	X		5	23/27	1.09	X		6	21/28	0.96	X		R	38/12	4.053			Constant	25/32	1.280		
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Marque
Make

PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

Homologation No

A-5524

Extension No

02/02VO

Page ou ext. Page or ext.	Article Article	Description Description
	603	GEARBOX (Cont'd)
Photo 1		Alternative gearbox case
	605	FINAL DRIVE
	a)	Type of final drive : Spur Gear
	b)	Ratio : 4.714 , 4.642 , 4.571 , 4.428 , 4.285
	c)	Number of teeth : 66/14 , 65/14 , 64/14 , 62/14 , 60/14
	606	SHAFTS
Photo 2		Reinforced Driveshaft, Front (LH)
Photo 3		Reinforced Driveshaft, Front (RH)
	7	SUSPENSION
Photo 4		Alternative Heavy Duty Front Knuckle.
Photo 5		Front Stabilizer bar Diameter : ϕ 19mm - 26mm.
Photo 6		Rear Stabilizer bar Diameter : ϕ 10mm - 20mm.
		Reinforced Front Wishbone Type : 1, 2, 3 Photo : 7, 8, 9
		Reinforced Trailing Arm Type : 1, 2, 3 Photo : 10, 11, 12
Photo 13		Reinforced Upper Transverse Link (Rear) Reinforced Lower Transverse Link (Rear) Type : 1, 2 Photo : 14, 15
Photo 16		Reinforced Toe Control Link (Rear) Reinforced Strut Top Mount Type : 1, 2, 3, 4 Photo : 17, 18, 19, 20

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Marque
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Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

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02/02VO

Page ou ext. Page or ext.	Article Article	Description Description
	7	SUSPENSION (Cont'd) Reinforced Rear Shock Absorber Top Mount Type : 1, 2, 3 Photo : 21, 22, 20
Photo 23		Reinforced Front Wishbone Rear Mount
Photo 24		Reinforced Front Cross Member
Photo 25		Liquid Cooled Front Shock Absorber
Photo 26		Liquid Cooled Rear Shock Absorber
Photo 27		Suspension Cooling Tank, Pump and Radiator Capacity 0.75 Lt.
	801	WHEELS
Photo 28		Wheel Spacer
	803	BRAKES
Photo 29		Hydraulic Handbrake
Photo 30		Fluid Distribution Valve
Photo 31		Pedal Box for Dual Master Cylinder
Photo 32		Master Cylinder
	b)	Number of master cylinders : 2
	b1)	Bore : \emptyset 15.9mm - \emptyset 25.4mm Parts No : CP2623, CP4623 Master cylinder may be front or rear
	c)	Servo-brakes : No
	d)	Braking regulator : Yes
	d1)	Location : Dashboard in cabin
Photo 33		Brake Regulator
Photo 34		Pressure Control Valve
Photo 35		Brake Stoneguard
Photo 36		Wheel Scraper

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Marque
Make

PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

Homologation No

A-5524

Extension No

02/02V0

Page ou ext. Page or ext.	Article Article	Description Description																																																						
803		<p>BRAKES (Cont'd)</p> <p>Brake Bell</p> <p>Type : 1, 2, 3 Photo : 37, 38, 39</p> <p>Brake Caliper Mount</p> <p>Type : 1, 2, 3, 4 Photo : 40, 41, 42, 43</p>																																																						
		<p>Front and/or rear brake caliper (Lug or radial mounting)</p> <table border="1"> <thead> <tr> <th>Type 1</th> <th>Type 2</th> <th>Type 3</th> <th>Type 4</th> <th>Type 5</th> <th>Type 6</th> </tr> </thead> <tbody> <tr> <td>e)</td> <td>2</td> <td>2</td> <td>2</td> <td>4</td> <td>4</td> </tr> <tr> <td>e1)</td> <td>38.1</td> <td>36.0</td> <td>41.28</td> <td>38.1/41.3</td> <td>38.1</td> </tr> <tr> <td>g1)</td> <td colspan="5">2</td> </tr> <tr> <td>g2)</td> <td colspan="5">1</td> </tr> <tr> <td>g3)</td> <td colspan="5">Aluminium Alloy</td> </tr> <tr> <td>g8)</td> <td colspan="2">69.0 ± 1.5</td> <td>113.5</td> <td colspan="2">133.0</td> </tr> <tr> <td>Part No</td> <td>CP3176</td> <td>CP3177</td> <td>CP2577</td> <td>CP3344</td> <td>CP3479</td> </tr> <tr> <td>Photo</td> <td colspan="2">44</td> <td>46</td> <td colspan="2">45</td> </tr> </tbody> </table>	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	e)	2	2	2	4	4	e1)	38.1	36.0	41.28	38.1/41.3	38.1	g1)	2					g2)	1					g3)	Aluminium Alloy					g8)	69.0 ± 1.5		113.5	133.0		Part No	CP3176	CP3177	CP2577	CP3344	CP3479	Photo	44		46	45	
Type 1	Type 2	Type 3	Type 4	Type 5	Type 6																																																			
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Photo	44		46	45																																																				
		<table border="1"> <thead> <tr> <th>Type 7</th> </tr> </thead> <tbody> <tr> <td>e)</td> </tr> <tr> <td>e1)</td> </tr> <tr> <td>g1)</td> </tr> <tr> <td>g2)</td> </tr> <tr> <td>g3)</td> </tr> <tr> <td>g8)</td> </tr> <tr> <td>Part No</td> </tr> <tr> <td>Photo</td> </tr> </tbody> </table>	Type 7	e)	e1)	g1)	g2)	g3)	g8)	Part No	Photo																																													
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Marque PROTON
 Make _____

Modèle WIRA 1.6XLi (C98S)
 Model PERSONA 1.6XLi (C98S)

Homologation No
A-5524

Extension No
02/02VO

FICHE D'HOMOLOGATION VO POUR FREINS A DISQUE (à utiliser avec première page de " Fiche d'Extension d'Homologation ")
VO HOMOLOGATION FORM FOR DISC BRAKES (to be used with first page of " Form of Homologation Extension ")

803. Freins :
 Brakes :
- e) Nombre de cylindres par roue
 Number of cylinders per wheel
 - e1) Alésage
 Bore
 - g) Freins à disques :
 Disc brakes :
 - g1) Nombre de plaquettes par roue
 Number of pads per wheel
 - g2) Nombre d'étriers par roue
 Number of calipers per wheel
 - g3) Matériau des étriers
 Caliper material
 - g4) Epaisseur du disque neuf
 Thickness of new disc
 - g5) Diamètre extérieur du disque
 External diameter of the disc
 - g6) Diamètre extérieur de frottement des plaquettes
 External diameter of pads' rubbing surface
 - g7) Diamètre intérieur de frottement des plaquettes
 Internal diameter of pads' rubbing surface
 - g8) Longueur hors-tout des plaquettes
 Overall length of the pads
 - g9) Disques ventilés
 Ventilated discs

	Avant / Front	Arrière/Rear								
e)	<u>4</u>	<u>2</u>								
e1)	<u>∅ 38.1/41.3</u> m m	<u>∅ 44.5</u> m m								
g)										
g1)	<u>2</u>	<u>2</u>								
g2)	<u>1</u>	<u>1</u>								
g3)	<u>Aluminum Alloy</u>	<u>Aluminum Alloy</u>								
g4)	<u>25.4</u> +/- 1 mm	<u>10.0</u> +/- 1 mm								
g5)	<u>∅ 289.0</u> +/- 1.5 mm	<u>∅ 260.0</u> +/- 1.5 mm								
g6)	<u>∅ 289.0</u> +/- 1.5 mm	<u>∅ 258.0</u> +/- 1.5 mm								
g7)	<u>∅ 190.0</u> +/- 1.5 mm	<u>∅ 195.0</u> +/- 1.5 mm								
g8)	<u>114.0</u> +/- 1.5 mm	<u>70.0</u> +/- 1.5 mm								
g9)	<table border="1"> <tr> <td>oui</td> <td>non</td> </tr> <tr> <td>yes</td> <td>no</td> </tr> </table>	oui	non	yes	no	<table border="1"> <tr> <td>oui</td> <td>non</td> </tr> <tr> <td>yes</td> <td>no</td> </tr> </table>	oui	non	yes	no
oui	non									
yes	no									
oui	non									
yes	no									

**FEDERATION INTERNATIONALE
 DE L'AUTOMOBILE**
 8, Place de la Concorde, 8
 PHOTO No 59 75008 PARIS

PHOTO No 58

Avant / Front

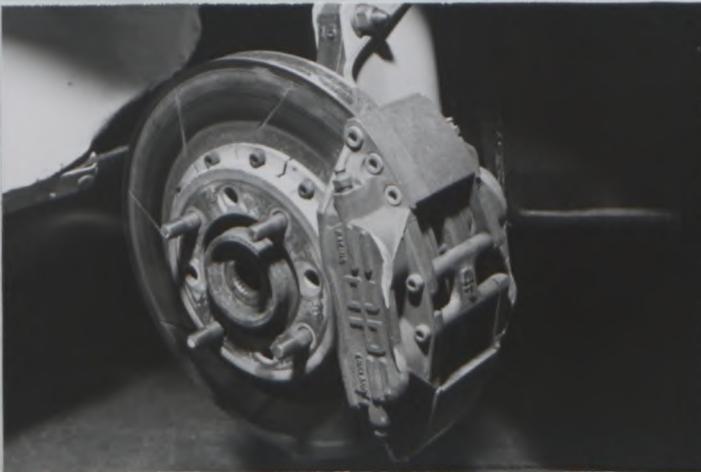
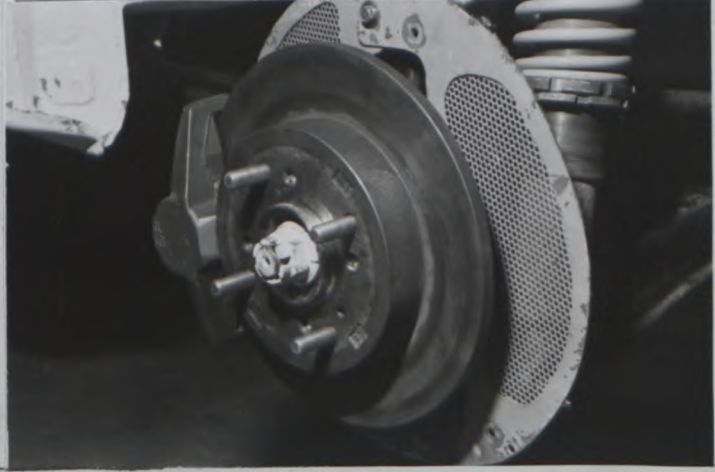


PHOTO No 59 75008 PARIS

Arrière / Rear



Marque
Make

PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

Homologation No

A-5524

Extension No

02/02V0

Page ou ext. Page or ext.	Article Article	Description Description			
	803	BRAKES (Cont'd)			
		Front and/or Rear brake disc. (Plain or grooved and/or cross drilled) All discs may be 8, 10, or 12 bolt fixing.			
		Type 1	Type 2	Type 3	Type 4
	g4)	25.4	28.0	25.4	28.0
	g5)	290.0	304.0	280.0	328.0
	g6)	290.0	304.0	280.0	328.0
	g7)	188.4	203.0	178.4	222.0
	g9)	Yes	Yes	Yes	Yes
	Parts No	CP3099	CP3580	CP3099	CP3580
	Photo	48	49	50	49
		Type 5	Type 6	Type 7	Type 8
	g4)	20.7	25.4	20.7	28.0
	g5)	266.7	304.0	280.0	315.0
	g6)	266.7	304.0	280.0	315.0
	g7)	155.0	203.2	192.0	195.0
	g9)	Yes	Yes	Yes	Yes
	Parts No	CP2261-48	CP2261-528/9	CP2261-746/7	CP3047-64/65
	Photo	48	48	48	48
		Type 9	Type 10	Type 11	Type 12
	g4)	28.0			
	g5)	304.0			
	g6)	304.0			
	g7)	203.2			
	g9)	Yes			
	Parts No	CP2748-66/67			
	Photo	51			

N.B. : Swept area of disc may be less depending on caliper used.

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FEDERATION INTERNATIONALE
DE L'AUTOMOBILE
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Marque
Make

PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

Homologation No

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Extension No

02/02V0

Page ou ext. Page or ext.	Article Article	Description Description
	804	STEERING
Photo 52		Reinforced Steering Column Alternative Steering Rack
		Type : 1 2
		Ratio : 11.6 : 1 10.3 : 1
		Photo : 53 54
Photo 55		Heavy Duty Power Steering Pump
	901	BODYWORK
Photo 56		Reinforced Seat Mounting
	a)	Ventilation : Yes
	f1)	Type : Fixed with internal valve
	f2)	Control system : Manual
		Maximum height is within 100mm Maximum width is within 500mm Mounted within first third of roof.
Photo 57		Ventilation Foil (Valid for rallies only)

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DE L'AUTOMOBILE
8, Place de la Concorde, 8
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Marque PROTON
Make _____

Modèle WIRA 1.6XLi (C98S)
Model PERSONA 1.6XLi (C98S)

Homologation No
A-5524

Extension No
02/02VO

PHOTO No 1 ALTERNATIVE GEARBOX ASSY

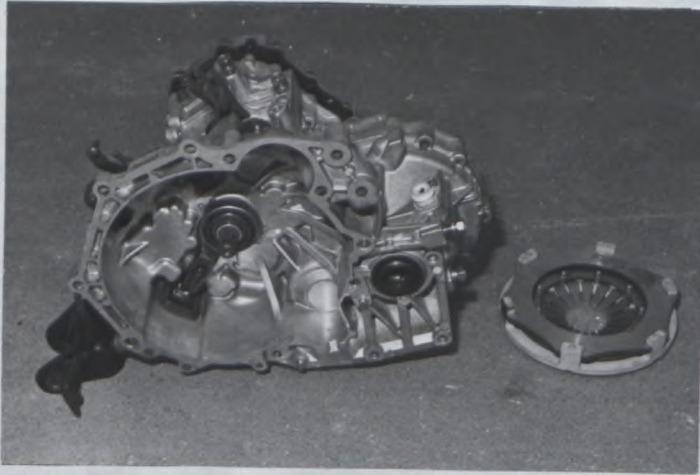


PHOTO No 2 REINFORCED DRIVESHAFT, FRONT (LH)

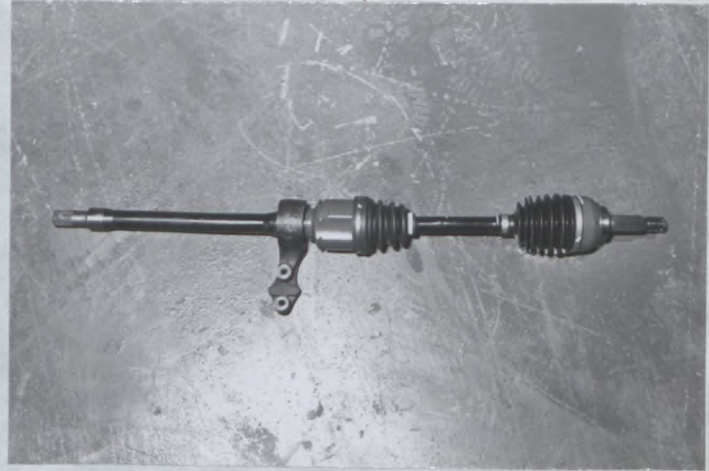


PHOTO No 3 REINFORCED DRIVESHAFT, FRONT (RH)



PHOTO No 4 ALTERNATIVE HEAVY DUTY FRONT KNUCKLE



PHOTO No 5 FRONT STABILIZER BAR

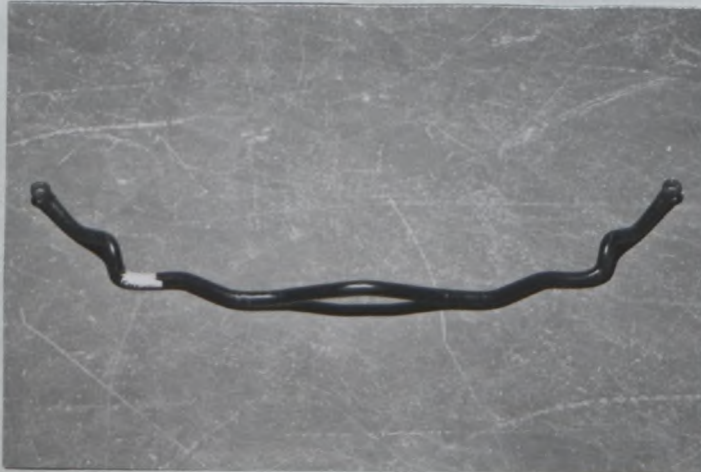


PHOTO No 6 REAR STABILIZER BAR



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**FEDERATION INTERNATIONALE
DE L'AUTOMOBILE**
8, Place de la Concorde, 8
75008 PARIS Page 8

Marque
Make

PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

Homologation No

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Extension No

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PHOTO No7 REINFORCED FRONT WISHBONE TYPE 1



PHOTO No8 REINFORCED FRONT WISHBONE TYPE 2



PHOTO No9 REINFORCED FRONT WISHBONE TYPE 3



PHOTO No10 REINFORCED TRAILING ARM TYPE 1

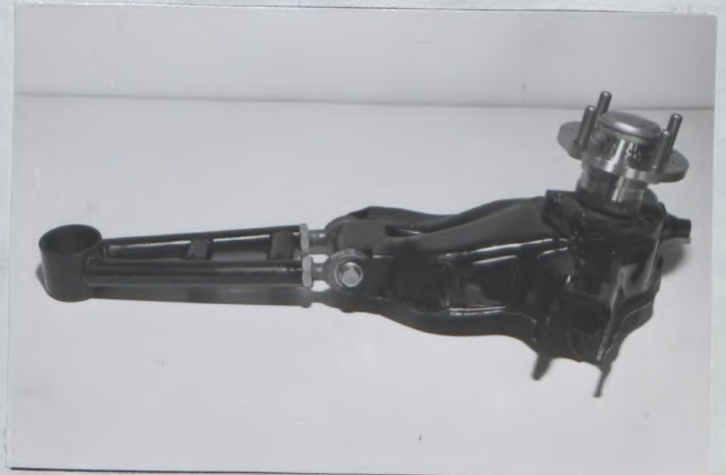


PHOTO No11 REINFORCED TRAILING ARM TYPE 2



PHOTO No12 REINFORCED TRAILING ARM TYPE 3



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**FEDERATION INTERNATIONALE
DE L'AUTOMOBILE**
8, Place de la Concorde, 8
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Marque PROTON
Make _____

Modèle
Model _____

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

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Extension No

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PHOTO No 13 REINFORCED UPPER TRANSVERSE
LINK - REAR



PHOTO No 14 REINFORCED LOWER TRANSVERSE
LINK - REAR TYPE 1



PHOTO No 15 REINFORCED LOWER TRANSVERSE
LINK - REAR TYPE 2



PHOTO No 16 REINFORCED TOE CONTROL LINK
REAR



PHOTO No 17 REINFORCED STRUT TOP MOUNT
TYPE 1

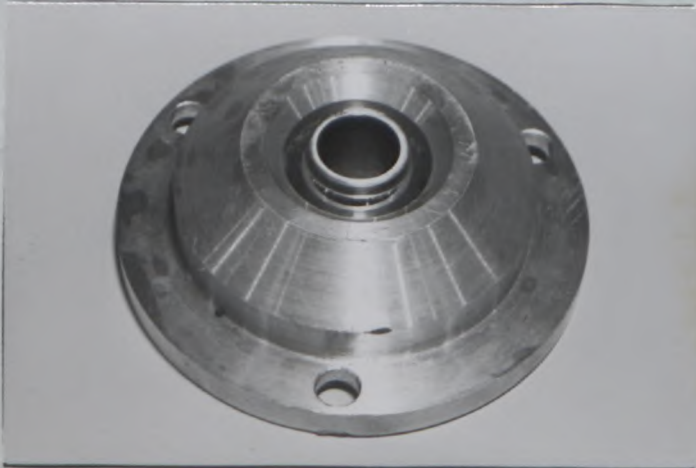
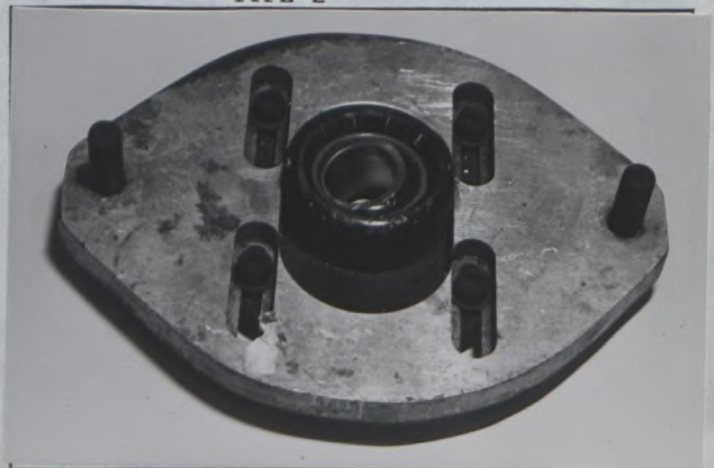


PHOTO No 18 REINFORCED STRUT TOP MOUNT
TYPE 2



Marque PROTON
Make _____

Modèle WIRA 1.6XLi (C98S)
Model PERSONA 1.6XLi (C98S)

Homologation No
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Extension No
02/02V0

PHOTO No 19 REINFORCED STRUT TOP MOUNT
TYPE 3

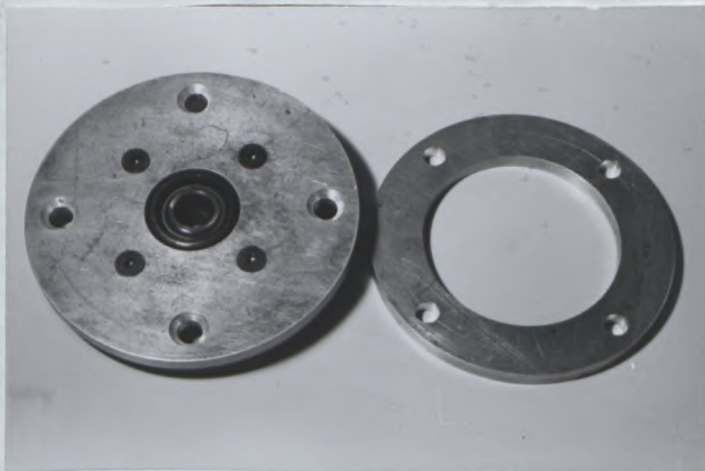


PHOTO No 20 REINFORCED STRUT TOP MOUNT
TYPE 4



PHOTO No 21 REINFORCED REAR SHOCK ABSORBER
TOP MOUNT TYPE 1

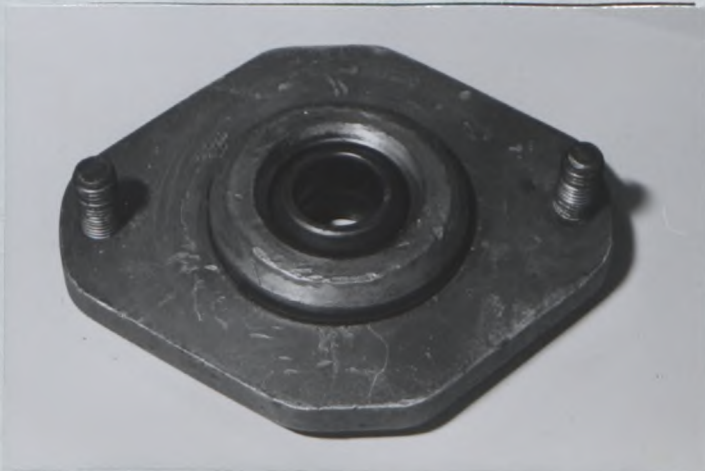


PHOTO No 22 REINFORCED REAR SHOCK ABSORBER
TOP MOUNT TYPE 2

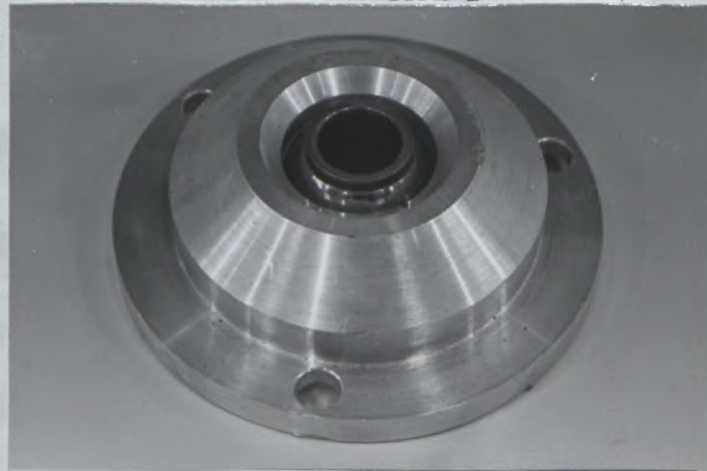
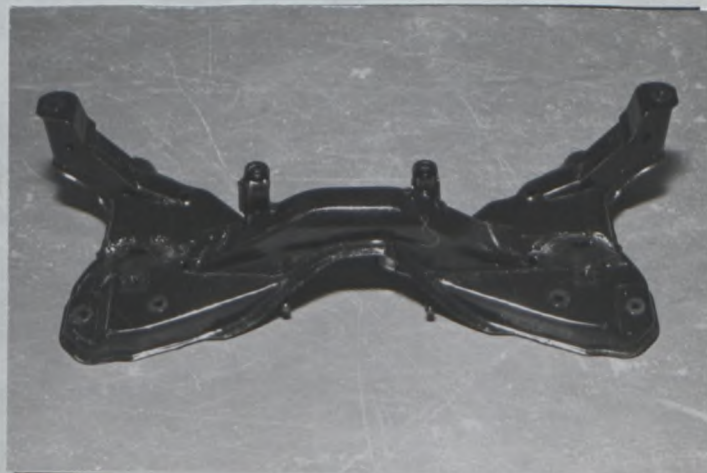


PHOTO No 23 REINFORCED FRONT WISHBONE
REAR MOUNT



PHOTO No 24 REINFORCED FRONT CROSS MEMBER



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DE L'AUTOMOBILE
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75008 PARIS

Marque
Make

PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

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02/02V0

PHOTO No25 LIQUID COOLED FRONT SHOCK ABSORBER



PHOTO No 26 LIQUID COOLED REAR SHOCK ABSORBER



PHOTO No27 SUSPENSION COOLING TANK, PUMP AND RADIATOR

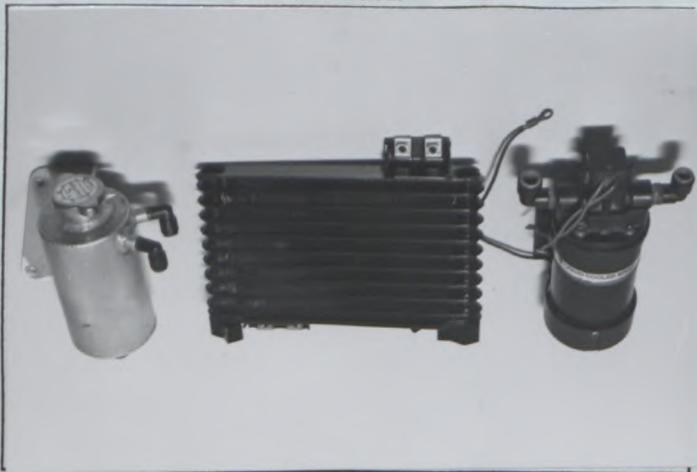


PHOTO No28 WHEEL SPACER



PHOTO No 29 HYDRAULIC HANDBRAKE



PHOTO No 30 FLUID DISTRIBUTION VALVE



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FEDERATION INTERNATIONALE
DE L'AUTOMOBILE
8, Place de la Concorde, 8
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Marque
Make

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Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

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PHOTO No 31 PEDAL BOX FOR DUAL MASTER CYLINDER



PHOTO No 32 MASTER CYLINDER

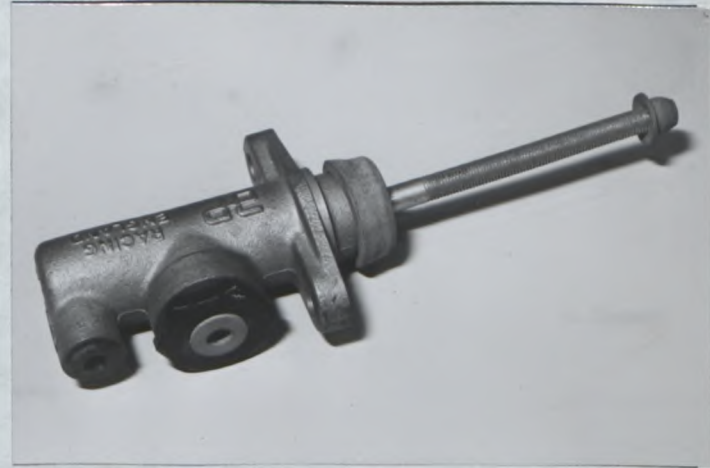


PHOTO No 33 BRAKE REGULATOR



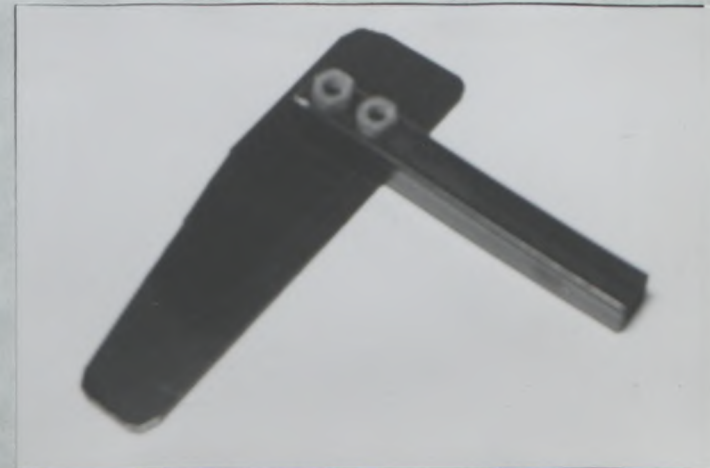
PHOTO No 34 PRESSURE CONTROL VALVE



PHOTO No 35 BRAKE STONEGUARD



PHOTO No 36 WHEEL SCRAPER



Marque PROTON
Make _____

Modèle WIRA 1.6XLi (C98S)
Model PERSONA 1.6XLi (C98S)

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Extension No
02/02V0

PHOTO No 37 BRAKE BELL TYPE 1

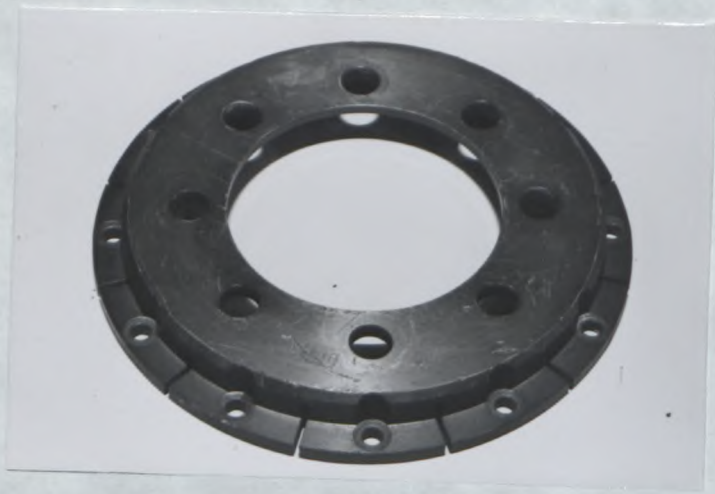


PHOTO No 38 BRAKE BELL TYPE 2



PHOTO No 39 BRAKE BELL TYPE 3

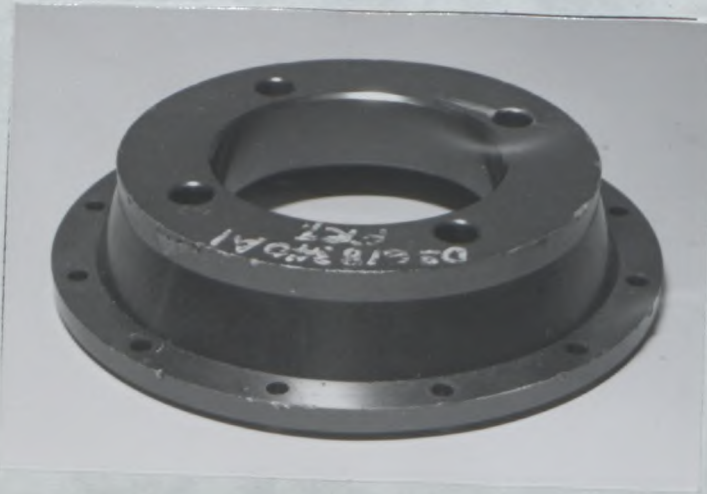


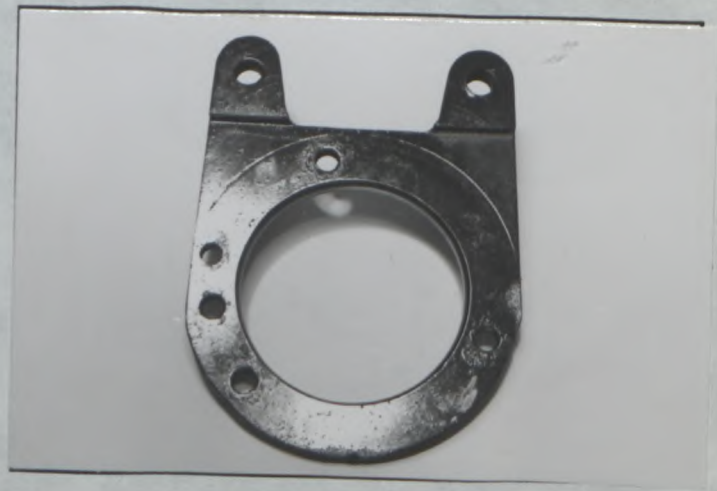
PHOTO No 40 BRAKE CALIPER MOUNT TYPE 1



PHOTO No 41 BRAKE CALIPER MOUNT TYPE 2



PHOTO No 42 BRAKE CALIPER MOUNT TYPE 3



Marque
Make

PROTON

Modèle
Model

WIRA 1.6XLi (C98S)
PERSONA 1.6XLi (C98S)

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PHOTO No 43 BRAKE CALIPER MOUNT TYPE 4



PHOTO No 44 FRONT AND/OR REAR BRAKE CALIPER TYPE 1, 2, 3

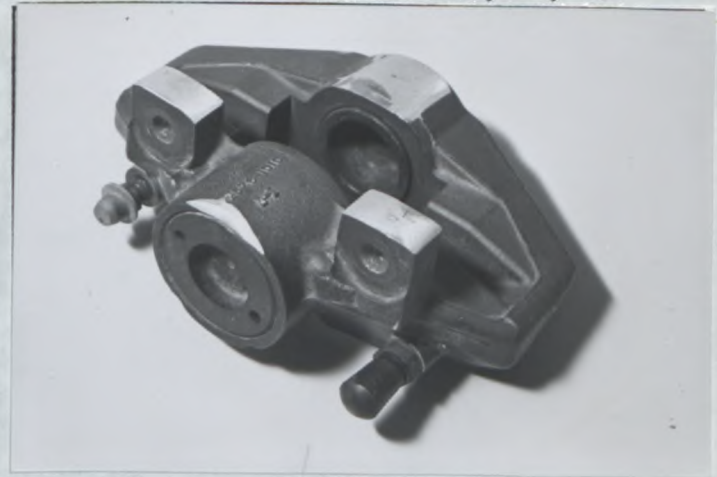


PHOTO No 45 FRONT AND/OR REAR BRAKE CALIPER TYPE 5, 6

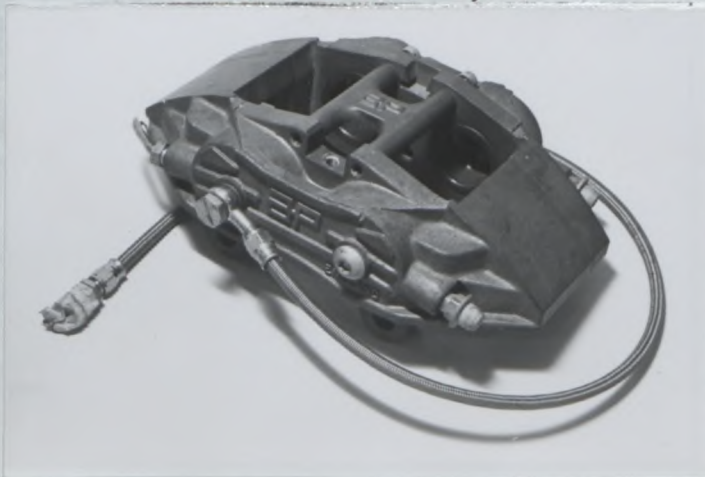


PHOTO No 46 FRONT AND/OR REAR BRAKE CALIPER TYPE 4



PHOTO No 47 FRONT AND/OR REAR BRAKE CALIPER TYPE 7



PHOTO No 48 FRONT AND/OR REAR BRAKE DISC TYPE 1, 5, 6, 7, 8



Marque PROTON
Make _____

Modèle WIRA 1.6XLi (C98S)
Model PERSONA 1.6XLi (C98S)

Homologation No
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02/02V0

PHOTO No 49 FRONT AND/OR REAR BRAKE
DISC TYPE 2, 4

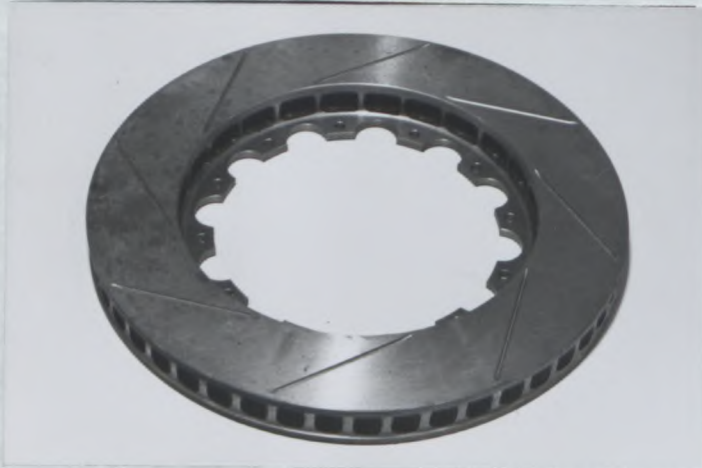


PHOTO No 50 FRONT AND/OR REAR BRAKE
DISC TYPE 3



PHOTO No 51 FRONT AND/OR REAR BRAKE
DISC TYPE 9



PHOTO No 52 REINFORCED STEERING COLUMN



PHOTO No 53 ALTERNATIVE STEERING RACK
TYPE 1

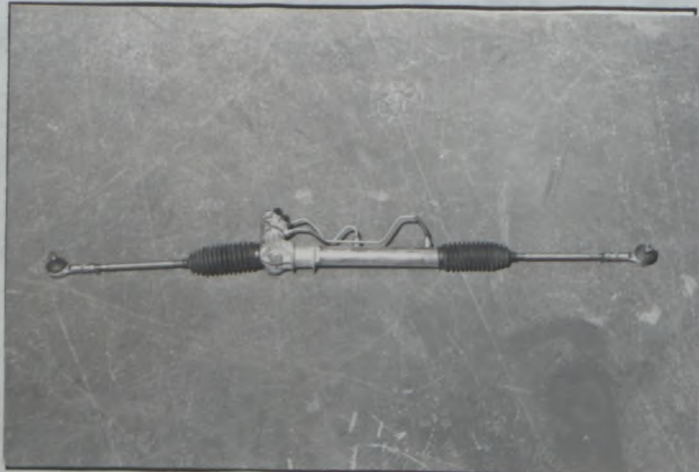
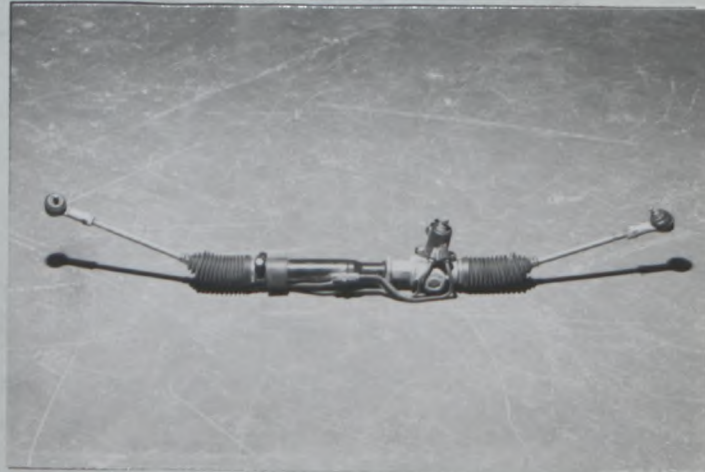


PHOTO No 54 ALTERNATIVE STEERING RACK
TYPE 2



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Marque
Make

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Modèle
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PERSONA 1.6XLi (C98S)

Homologation No

A-5524

Extension No

02/02V0

PHOTO No 55 HEAVY DUTY POWER STEERING PUMP



PHOTO No 56 REINFORCED SEAT MOUNTING

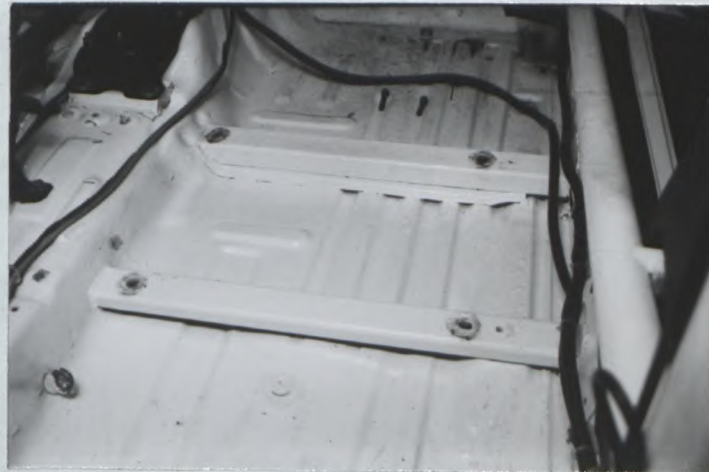


PHOTO No 57 VENTILATION FOIL

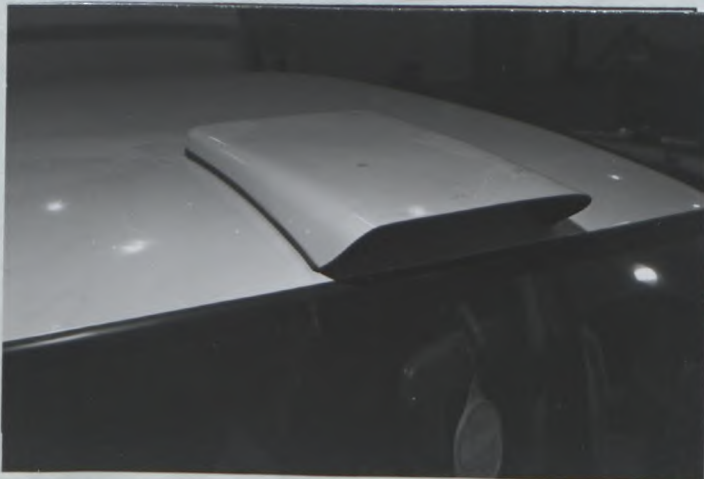


PHOTO No

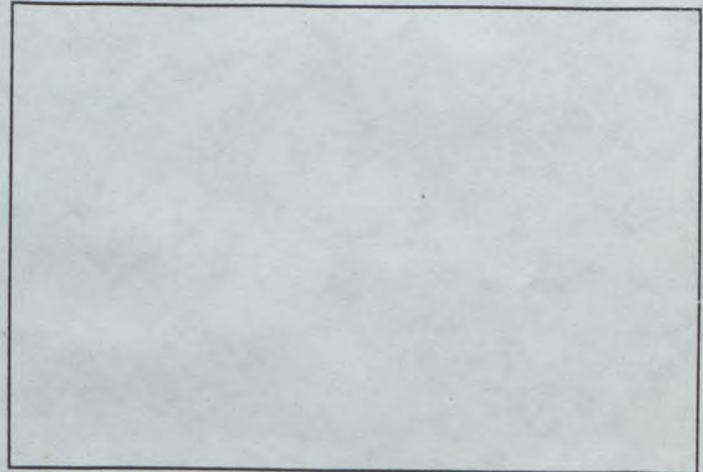


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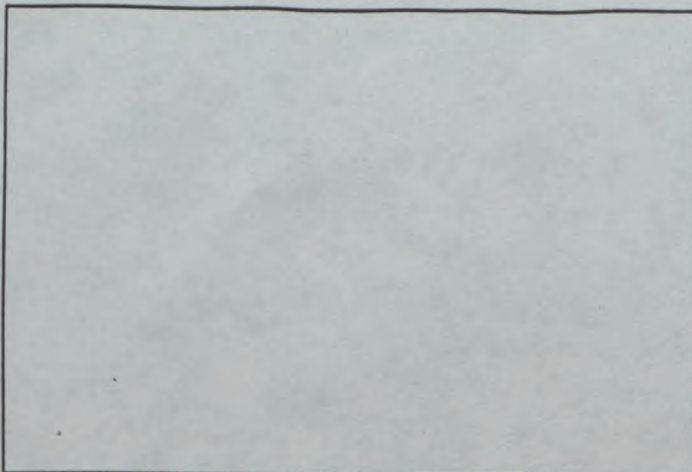
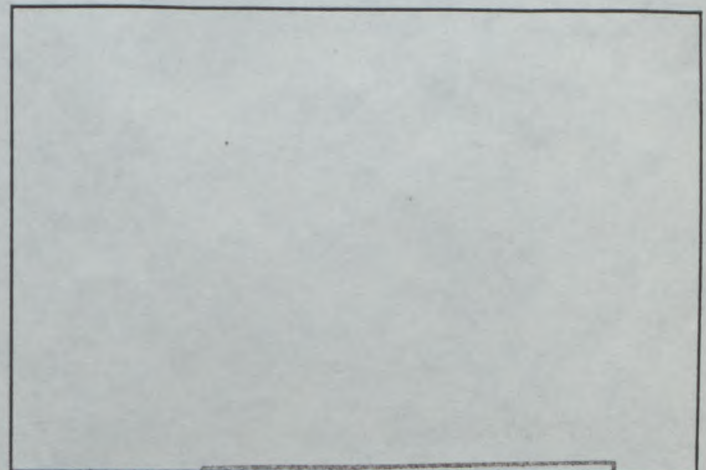


PHOTO No



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FEDERATION INTERNATIONALE
DE L'AUTOMOBILE
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FEDERATION INTERNATIONALE
DE L'AUTOMOBILE

Homologation N°

A 5524

Groupe
Group **A / B / N**

Extension N°

03 / 01 VF

FICHE D'EXTENSION D'HOMOLOGATION
FORM OF HOMOLOGATION EXTENSION

- ES** Evolution sportive du type / Sporting evolution of the type **VO** Variante option / Option variant
- ET** Evolution normale du type / Normal evolution of the type **ER** Erratum / Erratum
- VF** Variante de fourniture / Supply variant

Véhicule : Constructeur
Vehicle : Manufacturer **PERUSAHAAN OTOMOBIL NASIONAL BERHAD**

Modèle et type
Model and type **WIRA 1.6 XLi (C98S) / PERSONA 1.6 XLi (C98S)**

Homologation valable à partir du
Homologation valid as from **01 SEP. 2001**

Page or ext.	Article	Description
Page 1		BODYWORK
	Photo	
	1	Car seen from 3/4 front view.
	2	Car seen at full front view. Note: Redesigned front grille.
	3	Car seen from 3/4 rear view.
	4	Car seen from full rear view. Note: Redesigned taillight assy. and rear license plate holder

Fédération Internationale de l'Automobile
2 chemin de Blandonnet
CH-1215 GENEVE 15
Tél.: 41 22 544 44 00
Fax Sport: 41 22 544 44 50

A 5524

03 / 01 VF

Marque
Make **PERUSAHAAN OTOMOBIL
NASIONAL BERHAD**

Modèle
Model **WIRA 1.6XLI (C98S)
PERSONA 1.6XLI (C98S)**

PHOTO N° 1



PHOTO N° 2



PHOTO N° 3



PHOTO N° 4



PHOTO N°

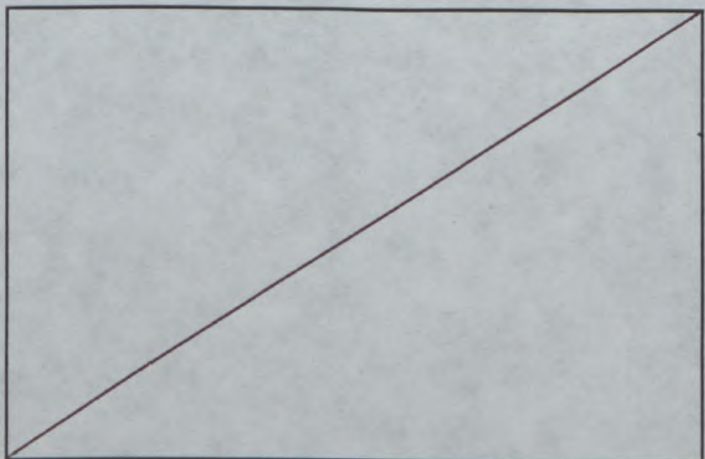


PHOTO N°

