

INFORMATION Redacted PURSUANT TO THE FREEDOM OF  
INFORMATION ACT (FOIA), 5 U.S.C . 552(B)(6)

PE11-034

HONDA

11/22/2011

#Q6 LON\_Problem

Labor Operation Number	Labor Operation Number Description
414199	FRONT DAMPER STRAIGHT TIME (WITH PARTS)
416199	FRONT BUSHINGS, STABILIZER BAR STRAIGHT TIME (WITH PARTS)
417101	DAMPER/SHOCK ABSORBER ASSEMBLIES, BOTH REAR - REPLACE. INCLUDES: ALIGNMENT (EXCEPT `06 CIVIC) S/B# 09-005
417105	DAMPER/SHOCK ABSORBER ASSEMBLY, LEFT REAR - REPLACE. INCLUDES ALIGNMENT
417110	DAMPER/SHOCK ABSORBER ASSEMBLY, RIGHT REAR - REPLACE.
417199	REAR DAMPER STRAIGHT TIME (WITH PARTS)
714145	TAILLIGHT LENS OR BACKUP LIGHT LENS ON TRUNK LID/HATCH/TAILGATE, LEFT - REPLACE.
714199	BRAKE LIGHT OR HIGH-MOUNT BRAKE LIGHT STRAIGHT TIME (WITH PARTS)
715110	CEILING OR SPOT LIGHT BULB, FRONT - REPLACE.
737199	WIRE HARNESS STRAIGHT TIME (WITH PARTS)
745509	SWITCH/CIRCUIT - DIAGNOSE OR INPUT TEST.
811199	REAR BUMPER STRAIGHT TIME (WITH PARTS)
8111B1	STAY, REAR BUMPER RIGHT - REPLACE. (1)NOTE: SAME TIME FOR TWO UNITS (2)EXCLUDES: PAINTING COST
8111B4	STAY, REAR BUMPER BOTH - REPLACE. EXCLUDES: PAINTING COST
812199	HOOD AND RELEASE CABLE STRAIGHT TIME (WITH PARTS)
817199	DOOR LOCKS STRAIGHT TIME (WITH PARTS)
8171B6	TRUNK/TAILGATE/HATCH ROOF LATCH - REPLACE.
8171B7	TAILGATE LATCH AND CLOSER - REPLACE
823097	REAR COMPARTMENT PARTS ONLY
823099	REAR COMPARTMENT STRAIGHT TIME (WITHOUT PARTS)
823120	TRUNK LID/TAILGATE/STAY ASSEMBLY (BOTH) - REPLACE.
823125	TRUNK LID, TAILGATE/ STAY ASSEMBLY, LEFT - REPLACE.
823130	TRUNK LID/ TAILGATE/ STAY ASSEMBLY, RIGHT - REPLACE.
823199	REAR COMPARTMENT STRAIGHT TIME (WITH PARTS)
8231A7	TAILGATE OPENER SWITCH - REPLACE.
8231A9	TRUNK/TAILGATE/HATCH STRIKER - REPLACE.
8231B5	TRUNK/TAILGATE/HATCH OPENER ACTUATOR - REPLACE.
8231C4	TRUNK/TAILGATE/HATCH HINGE, LEFT - REPLACE.
8231G1	TRUNK/TAILGATE/HATCH HINGES, BOTH - REPLACE.
8231J8	POWER TAILGATE MOTOR - REPLACE.

Labor Operation Number	Labor Operation Number Description
8231J9	POWER TAILGATE GEAR CASE - REPLACE.
8231K8	POWER TAILGATE ARM UNIT- REPLACE.
823380	TRUNK LID, TAILGATE OR HATCH - ADJUST. S/B# 04-022
8241C2	MOULDING, LEFT REAR DOOR SASH - REPLACE.
826099	DOOR GLASS AND HARDWARD, LEFT FRONT STRAIGHT TIME (WITHOUT PARTS
838199	DOOR WEATHERSTRIP, RIGHT REAR STRAIGHT TIME (WITH PARTS)
841099	INSTRUMENT PANEL STRAIGHT TIME (WITHOUT PARTS)
8411E1	GLOVE BOX DAMPER - REPLACE.
8411F6	CONSOLE BOX - REPLACE.

Problem Code	Problem Code Description
00201	BENT
00401	DISTORTED
00504	PREMATURE WEAR AND TEAR
01101	PERMANENT SET-IN FATIGUE
01102	DETERIORATED
01701	HAIRLINE FRACTURE
01801	BROKEN
02301	SEIZED
03001	BINDING/STICKING
03214	ERRONEOUS OPERATION
03217	NOT OPERATING
05701	DETACHED
06201	LOOSE (POORLY FITTED)
07403	INTERFERENCE
07404	POOR ASSEMBLY
07405	IMPROPERLY TIGHTENED
07406	IMPROPERLY ADJUSTED
07407	INSUFFICIENT SEALING MATERIAL
07408	IMPROPERLY SEALED
07409	INSUFFICIENT GREASE/OIL
07410	INSUFFICIENT OR NOT INJECTED
08001	INCORRECT ASSEMBLY

PE11-034

HONDA

11/22/2011

#Q8 QIS HMA09070801

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Honda Manufacturing of Alabama

Issued By HMA

### QUALITY IMPROVEMENT SHEET (Q.I.S.)

<b>COUNTERMEASURE CONTROL#</b>	<b>RESPONSIBLE SITE AND DEPARTMENT</b>		<b>Rank</b>
HMA09070801	HMA HMA PARTS QUALITY		B
<b>INFORMATION SOURCE</b>	<b>Problem Definition ID</b>	<b>CBU Category</b>	
TTB	PDHMA090618002	EXTERIOR	
<b>Supplier</b>	<b>Affected Model</b>		<b>RESPONSIBLE DPT ISSUE DATE</b>
STABILUS	HMA -ODYSSEY		7/15/2009
<b>Market Information Issuer</b>	<b>Lead Quality Investigator</b>	<b>Investigator Team</b>	<b>THEME UP DATE</b>
Joshua McClung	Shaley Parker	HMA Exterior	7/8/2009
<b>Title</b>			
Tailgate Open Stay Failures			
<b>Customer Complaint</b>			
Tailgate won't stay open.			
<b>Dealer Repair</b>			
Replace one or both struts.			
<b>Finish Date</b>	<b>1st COUNTERMEASURE APPLICATION DATE</b>	<b>C/M Target Date</b>	
3/16/2010	9/24/2009	11/11/2009	
<b>Market Data Investigation</b>			
Thus far for 09M Odyssey: 88 claims to date, of which 10 occurred at PDI. Avg. days to fail: 115, avg. miles to fail: 5,263, total cost: \$10,302, defect rate: 0.14%.			
Vehicles with power tailgates fail more often than those without. Also claims are much higher during warmer months and southern regions.			
<b>Investigation Cause Analysis</b>			
Analyzed four sets of returned parts. Three of four sets caused tailgate to fail on CBU (fourth set returned for oil leaking contention). Of failed parts, two sets returned with completely compressed right side parts (parts failed due to complete gas loss). On remaining failing set, 30mm groove/scratch was found on left side rod. Testing parts on this set individually showed left side part was causing tailgate to not hold open.			

VIEW BEFORE COUNTERMEASURE	VIEW AFTER COUNTERMEASURE
	x

**Responsible Department Root Cause Analysis**

Rod damage due to rod contact with the rod guide. The damaged rod then damages (wears) the seal which results in gas loss.

The C/M design applied to the following VIN's.  
 A710's applied to VIN 5FNRL3H65AB [REDACTED]  
 A210's applied to VIN 5FNRL3H57AB [REDACTED]

COUNTERMEASURE BY		COUNTERMEASURE CONTROL#	
11/11/2009		HMA09070801	
Recomnd Sold Product Treatment	Recomnd Stock Product Treatment	Recmd Part Stock Change	Design Change Number
NORMAL WARRANTY	NO TREATMENT	NO CHANGE	
CoreMQ Problem Definition ID		CoreMQ Problem Definition Name	
281		TG Open Stay Replacements	

C/M Title	C/M Location	C/M Type
Double spacer design change	Frame Factory	Part Modification / Drawing Change

**CM Details**

An additional spacer was added, changing the contact angle of the rod to the guide. The seal material was changed. The oil was changed. The rod and tube length was changed slightly to compensate for the additional spacer.

Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
9/24/2009	HMA	1	2010	ODYSSEY		

**Recommended Field Action**

To be determined by QA & AH

**Countermeasure Effectiveness**

No issues reported from AF since D/C applied. All testing by supplier and QA shows that this is an improved performance over previous design.

<b>AH - Domestic</b>			
<b>Sales Division Engineer</b>	<b>Sold Product Treatment</b>	<b>Product Treatment</b>	<b>Part Stock Change</b>
	NORMAL WARRANTY	INSPECTION	PARTS CENTER STOCK
<b>Service Action Report</b>	<b>Service Bulletin Number</b>	<b>After Service Part Number</b>	
	None	Same as original	
<b>AH - Export</b>			
<b>Sales Division Engineer</b>	<b>Sold Product Treatment</b>	<b>Product Treatment</b>	<b>Part Stock Change</b>
<b>Service Action Report</b>	<b>Service Bulletin Number</b>	<b>After Service Part Number</b>	
<b>CH</b>			
<b>Sales Division Engineer</b>	<b>Sold Product Treatment</b>	<b>Product Treatment</b>	<b>Part Stock Change</b>
<b>Service Action Report</b>	<b>Service Bulletin Number</b>	<b>After Service Part Number</b>	
<b>Part Number List</b>		<b>Part Group/Subgroup List</b>	
74820 - STAY, TAILGATE OPEN		TAILGATE / TRUNK -	



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11/22/2011

##Q8 QIS SHJA07101201

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Supplier

Honda Manufacturing of Alabama

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### QUALITY IMPROVEMENT SHEET (Q.I.S.)

<b>COUNTERMEASURE CONTROL#</b>	<b>RESPONSIBLE SITE AND DEPARTMENT</b>		<b>Rank</b>
SHJA07101201	HMA HMA PARTS QUALITY		B
<b>INFORMATION SOURCE</b>	<b>Problem Definition ID</b>	<b>CBU Category</b>	
TTB		TBD	
<b>Supplier</b>	<b>Affected Model</b>		<b>RESPONSIBLE DPT ISSUE DATE</b>
STABILUS	HMA-ODYSSEY		11/2/2007
<b>Market Information Issuer</b>	<b>Lead Quality Investigator</b>	<b>Investigator Team</b>	<b>THEME UP DATE</b>
Joshua McClung	Miles Akins	HMA Exterior	10/12/2007
<b>Title</b>			
Odyssey Tailgate Open Stay Failure			
<b>Customer Complaint</b>			
Customers find the tailgate will not stay up. Dealers replace the tailgate stay(s) to repair.			
<b>Dealer Repair</b>			
<QIS from old system. No specific Dealer Repair text exists>			
<b>Finish Date</b>	<b>1st COUNTERMEASURE APPLICATION DATE</b>	<b>C/M Target Date</b>	
10/9/2008	3/26/2007	11/30/2007	
<b>Market Data Investigation</b>			
07M since previous countermeasure (4/4/2007): 23 claims to date, defect rate: 0.043%, six 0-day claims. Avg. miles to fail: 2,236, total cost: \$2,519.			
Since countermeasure defect rate appears to be following same trend.			
<b>Investigation Cause Analysis</b>			
There appears to be no improvement in failure trend since the countermeasures from the last QIS were implemented. QA requests that PQ investigate failures with the supplier.			
QA has received 16 warranty parts from vehicles produced after the last c/m. Of these 16 parts, 4 units had before c/m parts. After a c/m has been implemented by the supplier, QA requests that PQ work with supplier and purchasing to determine how many parts are in HMA safety stock cages, supplier's inventory, and on order for production at HMA. QA will work with AH to determine how many before c/m parts are being used for service parts. QA will use these inventory counts to determine if it is better to use these before c/m parts or to scrap them.			

VIEW BEFORE COUNTERMEASURE	VIEW AFTER COUNTERMEASURE
x	x

**Responsible Department Root Cause Analysis**

There were 78 parts returned to Stabilus for this QIS for analysis.  
 - 5 were found to be due to damage from the customer.  
 - 8 were found to have "bullet damage" due to misassembly of the seal to the rod in Stabilus process.  
 - 14 were found to have a rod defect from the raw material supplier.  
 - 51 were found to have rod to piston package concentricity out of spec causing the "side loading" failures.

COUNTERMEASURE BY		COUNTERMEASURE CONTROL#	
11/30/2007		SHJA07101201	
Recomnd Sold Product Treatment	Recomnd Stock Product Treatment	Recmd Part Stock Change	Design Change Number
NORMAL WARRANTY	NO TREATMENT	NO CHANGE	
CoreMQ Problem Definition ID		CoreMQ Problem Definition Name	

C/M Title	C/M Location	C/M Type
Tach added to EC tester	Frame Factory	Other

**CM Details**

CM from old system

Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
11/5/2007	HMA	1	9999	UNKNOWN		Tach added to EC tester

C/M Title	C/M Location	C/M Type
Bullet chg to Delrin	Frame Factory	Other

**CM Details**

CM from old system

Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
5/14/2007	HMA	2	9999	UNKNOWN		Bullet chg to Delrin

C/M Title	C/M Location	C/M Type

Chg spool feed angle		Frame Factory			Other	
<b>CM Details</b>						
CM from old system						
Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
10/11/2007	HMA	2	9999	UNKNOWN		Chg spool feed angle
<b>C/M Title</b>						
Chg S/U instructions		Frame Factory			Other	
<b>CM Details</b>						
<p>- For the torn seal due to "bullet damage", the steel "bullet" was replaced with a plastic one made of Delrin. This was applied at STMX on 4/15/07 lot # 120/07 arrived at HMA on 5/13/07.</p> <p>- For the side load scratches which due to rod to piston concentricity, the C/M was to change the S/U instructions to include the use of a gauge block to ensure proper riveting. This was applied on 03/30/07 at STMX and applied to lot# 093/07 arrived at HMA on 04/16/07. However, a hard C/M was applied to the rivetting machines of eliminating the pusher and nest to a set of grippers that hold the rod to ensure proper CC during rivetting. This was applied at STMX on 02/22/08 but due to no receipt of IPP tags, a FGV is estimated at 04/01/08. It was confirmed that after C/M lot dates were on line at this time.</p> <p>- There were two types of material defects in the rods that were found - voids and laps/seams. Both of these were due to slag getting into the material during processing at the raw material supplier. STMX installed their C/M of locking out the Eddy current reject box on 03/09/07 lot # 071/07 arrived at HMA on 03/25/07.</p> <p>- The sub-supplier replaced the forks on their forklifts from square to round to prevent handling damage on 08/10/07. They also replaced their EC head on 8/14 and re-trained their operators. They changed the material offload spool feed angle from 45 to 0 degrees on 08/17/07 to eliminate coils catching on each other. All of these supplier "improvements" were due to a change in suppliers from Mexico to US. These changes applied to Stabilus lot# 270/07 and are reported to have arrived at HMA on 10/10/07. The C/M of adjusting their EC tester at STMX was not until 12/06/07 lot# 340/07 arrived at HMA on 12/19/07.</p>						

**PAGE CONTAINS BUSINESS CONFIDENTIAL INFORMATION**

Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
1/4/2008	HMA	1	2008	ODYSSEY		5KBRL38768E [REDACTED]
4/1/2008	HMA	1	2008	ODYSSEY		5FNRL38468E [REDACTED]
1/2/2008	HMA	1	2008	ODYSSEY		5KBRL38858E [REDACTED]
12/20/2007	HMA	1	2008	ODYSSEY		5FNRL38618E [REDACTED]
5/14/2007	HMA	1	2007	ODYSSEY		Bullet chg to Delrin
4/1/2008	HMA	1	2008	ODYSSEY		5FNRL38618E [REDACTED]
10/11/2007	HMA	1	2007	ODYSSEY		Chg spool feed angle
12/21/2007	HMA	1	2008	ODYSSEY		5FNRL38798E [REDACTED]
4/17/2007	HMA	1	2007	ODYSSEY		Chg S/U instructions
4/1/2008	HMA	1	2008	ODYSSEY		5KBRL38238E [REDACTED]
11/5/2007	HMA	1	2008	ODYSSEY		Tach added to EC tester
4/18/2007	HMA	1	2007	ODYSSEY		5KBRL38677E [REDACTED]
4/1/2008	HMA	1	2008	ODYSSEY		CC CM grippers added
4/3/2008	HMA	1	2008	ODYSSEY		5KBRL38728E [REDACTED]
4/2/2008	HMA	1	2008	ODYSSEY		5KBRL38518B700611
4/18/2007	HMA	1	2007	ODYSSEY		5KBRL38797E [REDACTED]
1/7/2008	HMA	1	2008	ODYSSEY		5KBRL38678E [REDACTED]
4/17/2007	HMA	2	9999	UNKNOWN		Chg S/U instructions
4/1/2008	HMA	2	2008	ODYSSEY		5FNRL38708E [REDACTED]
12/20/2007	HMA	2	2008	ODYSSEY		Add pokeyoke check part
3/26/2007	HMA	2	2007	ODYSSEY		EC reject box lockout
4/1/2008	HMA	2	2008	ODYSSEY		CC CM Grippers Added

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C/M Title		C/M Location			C/M Type	
Tach added to EC tester		Frame Factory			Other	

**CM Details**

CM from old system

Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
11/5/2007	HMA	2	9999	UNKNOWN		Tach added to EC tester

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C/M Title		C/M Location			C/M Type	
Bullet chg to Delrin		Frame Factory			Other	

**CM Details**

CM from old system

Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
5/14/2007	HMA	1	9999	UNKNOWN		Bullet chg to Delrin
<b>C/M Title</b>						
<b>C/M Location</b>			<b>C/M Type</b>			
Chg spool feed angle			Frame Factory		Other	
<b>CM Details</b>						
CM from old system						
Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
10/11/2007	HMA	1	9999	UNKNOWN		Chg spool feed angle
<b>C/M Title</b>						
<b>C/M Location</b>			<b>C/M Type</b>			
EC reject box lockout			Frame Factory		Other	
<b>CM Details</b>						
CM from old system						
Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
3/26/2007	HMA	2	9999	UNKNOWN		EC reject box lockout
<b>C/M Title</b>						
<b>C/M Location</b>			<b>C/M Type</b>			
Add pokeyoke check part			Frame Factory		Other	
<b>CM Details</b>						
CM from old system						
Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
12/20/2007	HMA	1	9999	UNKNOWN		Add pokeyoke check part
<b>C/M Title</b>						
<b>C/M Location</b>			<b>C/M Type</b>			
Add pokeyoke check part			Frame Factory		Other	
<b>CM Details</b>						
CM from old system						
Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
12/20/2007	HMA	2	9999	UNKNOWN		Add pokeyoke check part
<b>C/M Title</b>						
<b>C/M Location</b>			<b>C/M Type</b>			
Chg S/U instructions			Frame Factory		Other	

CM Details						
CM from old system						
Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
4/17/2007	HMA	1	9999	UNKNOWN		Chg S/U instructions
C/M Title		C/M Location			C/M Type	
CC CM Grippers Added		Frame Factory			Other	
CM Details						
CM from old system						
Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
4/1/2008	HMA	2	9999	UNKNOWN		CC CM Grippers Added
C/M Title		C/M Location			C/M Type	
CC CM grippers added		Frame Factory			Other	
CM Details						
CM from old system						
Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
4/1/2008	HMA	1	9999	UNKNOWN		CC CM grippers added
C/M Title		C/M Location			C/M Type	
EC reject box lockout		Frame Factory			Other	
CM Details						
CM from old system						
Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
3/26/2007	HMA	1	9999	UNKNOWN		EC reject box lockout
C/M Title		C/M Location			C/M Type	
Containment NA		Frame Factory			Other	
CM Details						
CM from old system						
Date	Factory	Line	Year	Model	Engine/Trans	Tracking Tag
10/10/2007	HMA	1	9999	UNKNOWN		Containment NA

<b>Recommended Field Action</b>			
Normal warranty.			
<b>Countermeasure Effectiveness</b>			
Monitor warranty.			
<b>AH - Domestic</b>			
<b>Sales Division Engineer</b>	<b>Sold Product Treatment</b>	<b>Product Treatment</b>	<b>Part Stock Change</b>
<b>Service Action Report</b>	<b>Service Bulletin Number</b>	<b>After Service Part Number</b>	
<b>AH - Export</b>			
<b>Sales Division Engineer</b>	<b>Sold Product Treatment</b>	<b>Product Treatment</b>	<b>Part Stock Change</b>
<b>Service Action Report</b>	<b>Service Bulletin Number</b>	<b>After Service Part Number</b>	
<b>CH</b>			
<b>Sales Division Engineer</b>	<b>Sold Product Treatment</b>	<b>Product Treatment</b>	<b>Part Stock Change</b>
<b>Service Action Report</b>	<b>Service Bulletin Number</b>	<b>After Service Part Number</b>	
<b>Part Number List</b>		<b>Part Group/Subgroup List</b>	
74820 - STAY, TAILGATE OPEN		-	



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HONDA

11/22/2011

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**A**

**B**

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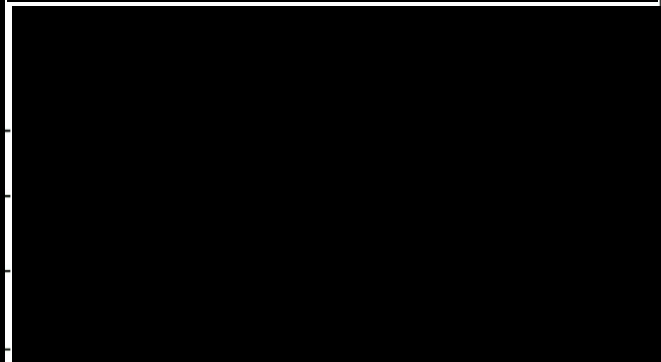
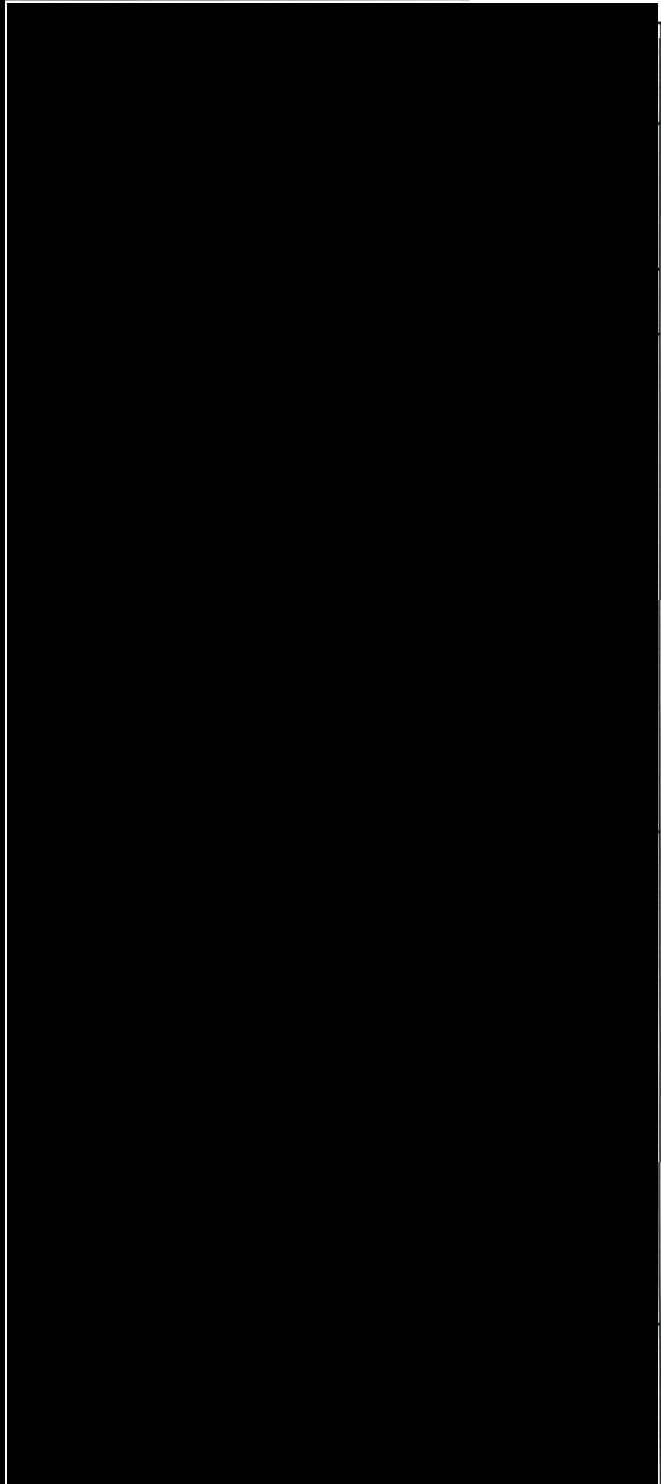
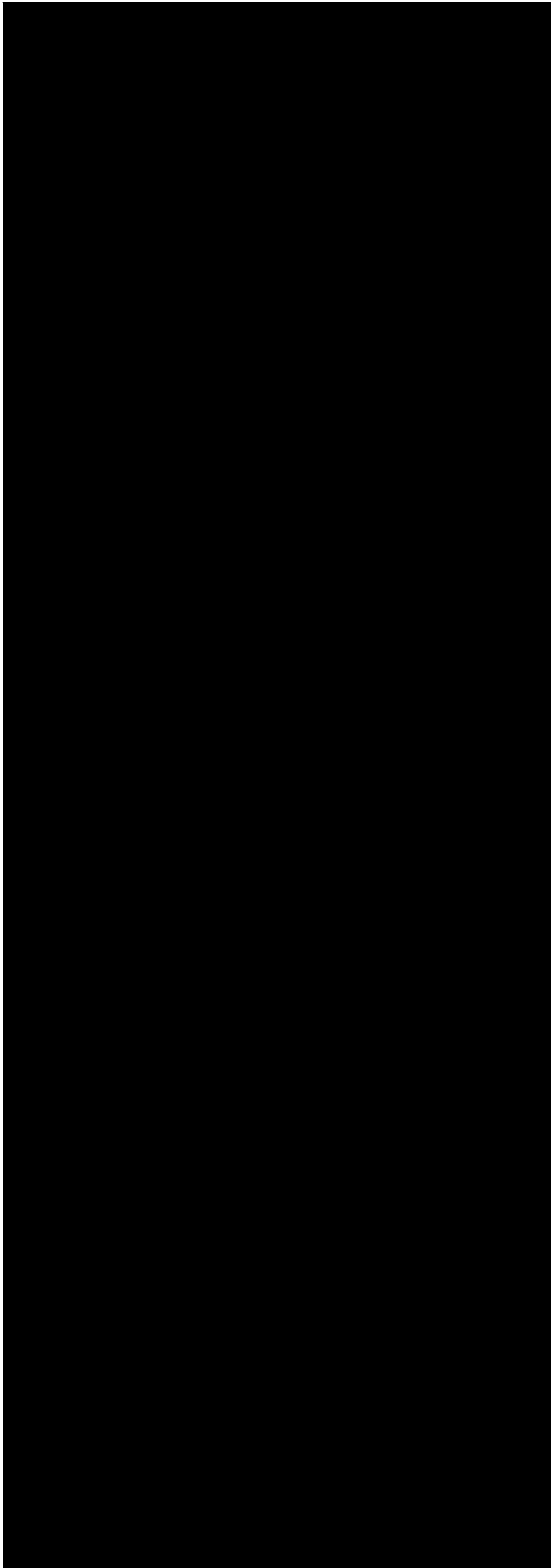
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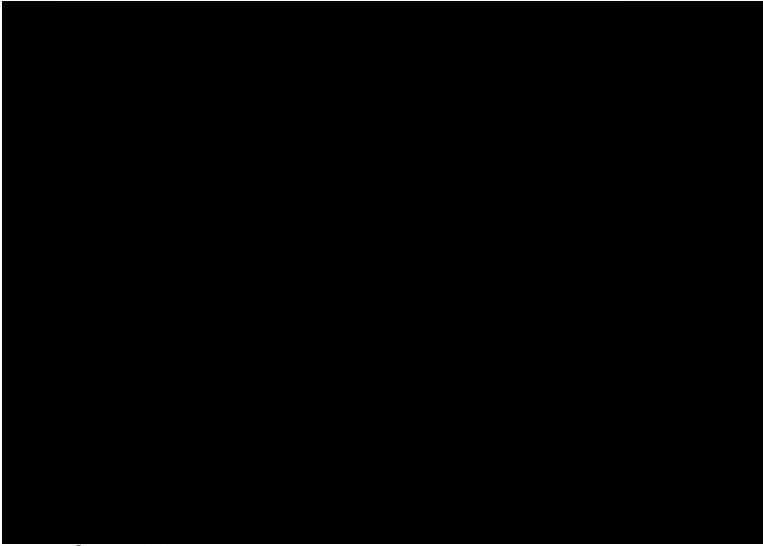
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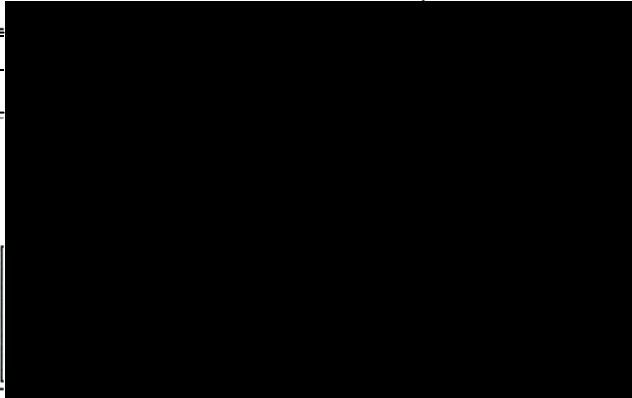
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Exterior Marketability Function



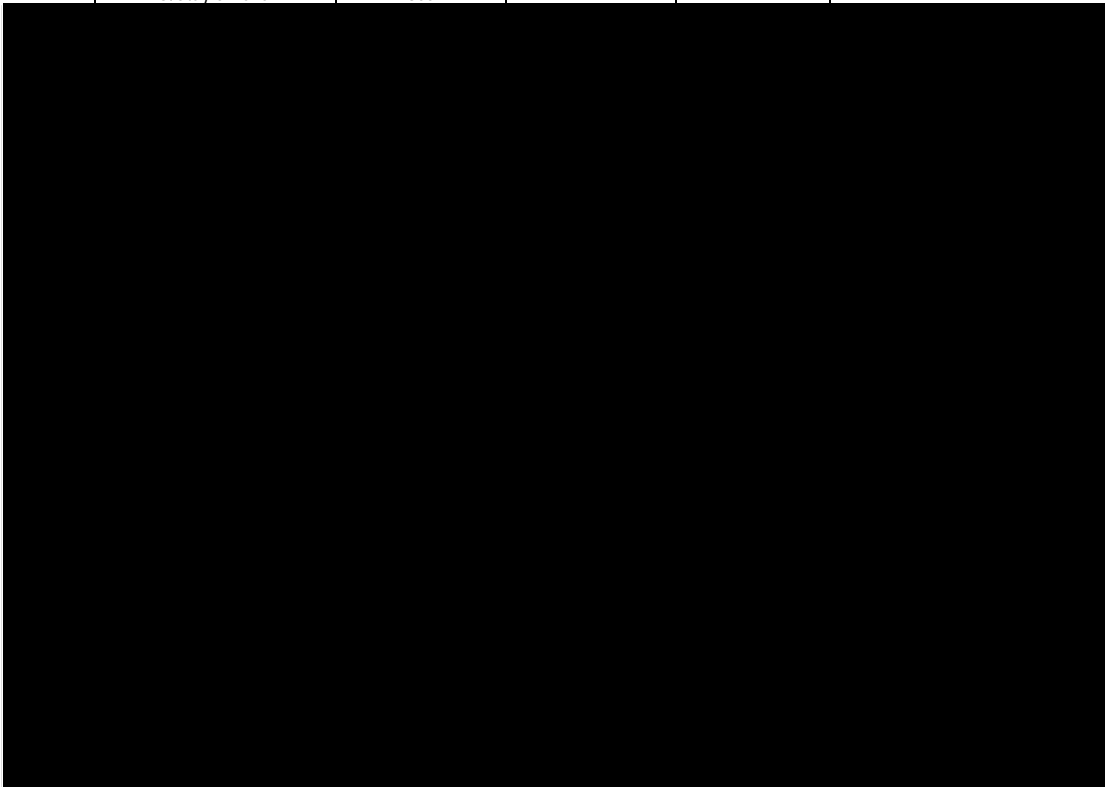


Exterior Marketability Function

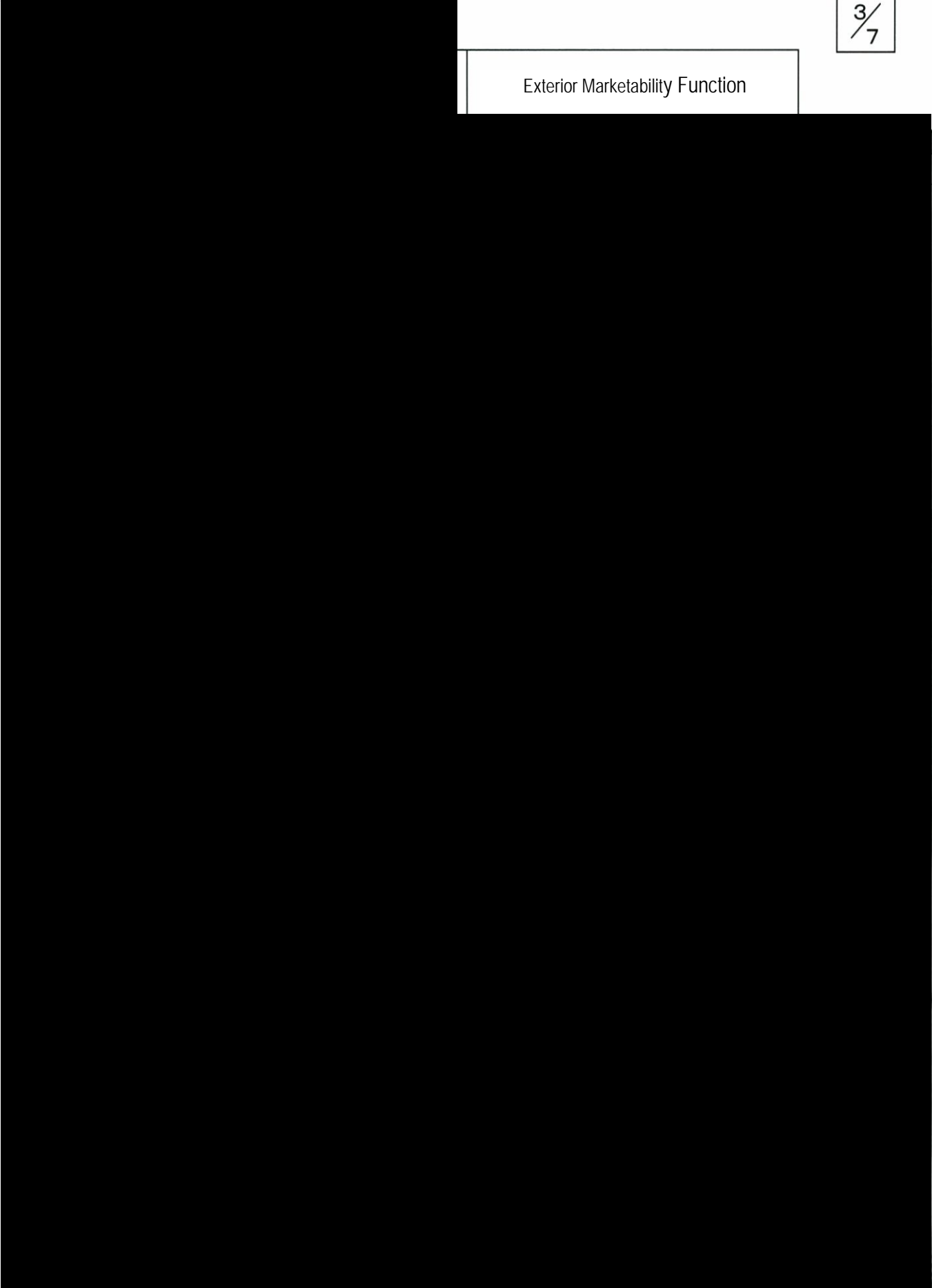


© Specification

O/Stay Tube diameter	28mm	GATE unit (wt)	36kg
O/Stay rod diameter	10mm		
O/Stay reaction force	770±15N		
O/Stay damping structure	Dynamic damping		
O/Stay oil level	3cc		



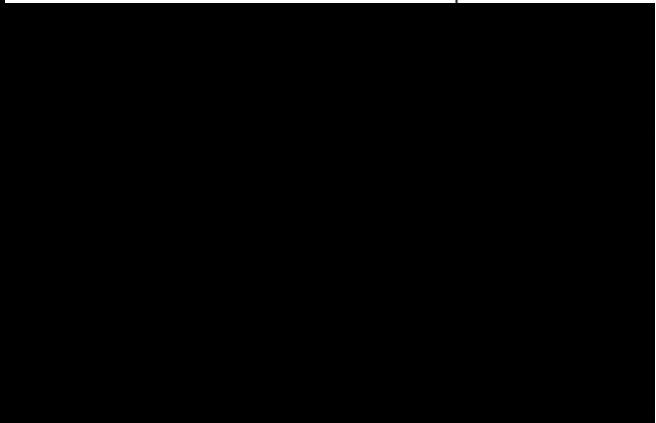
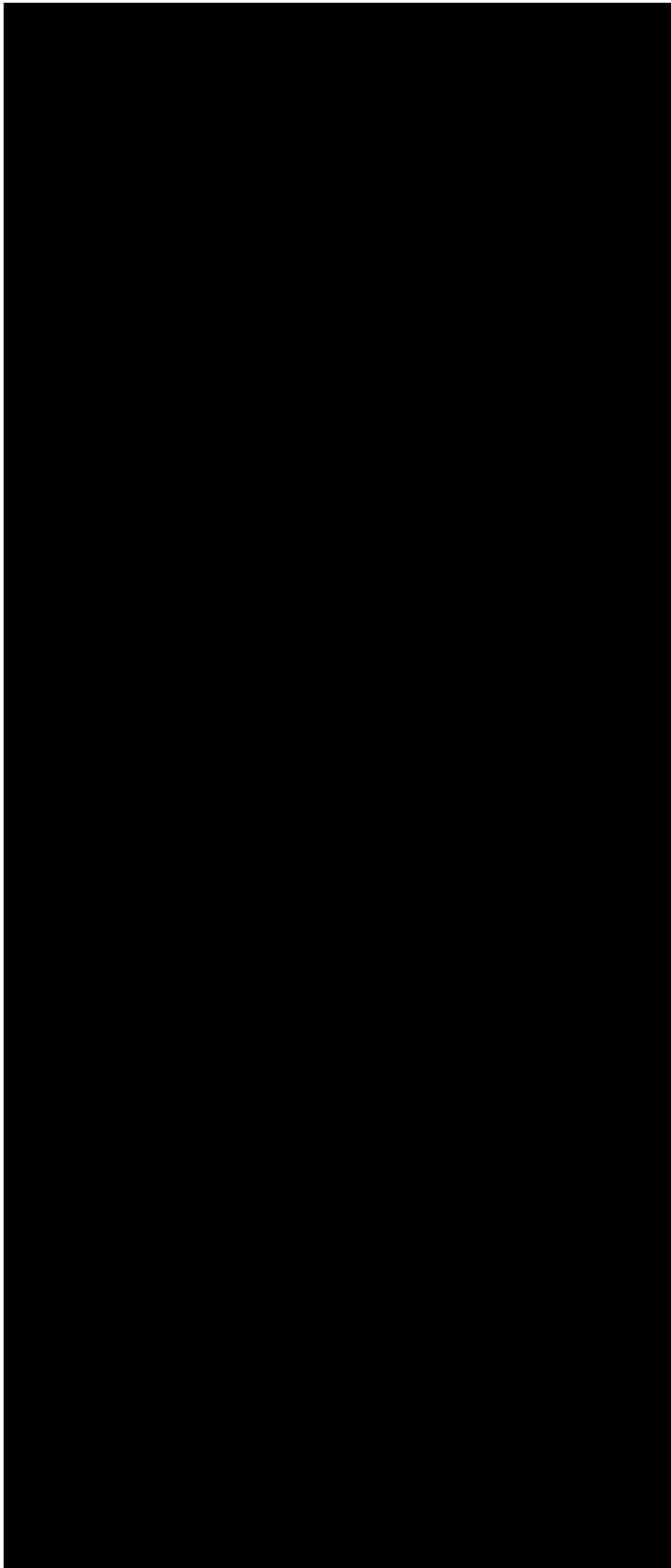
Exterior Marketability Function



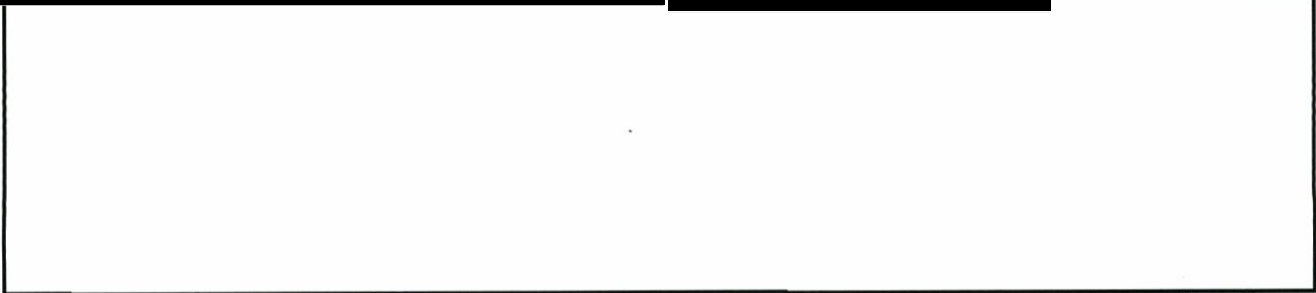
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Exterior Marketability Function



	Remarks

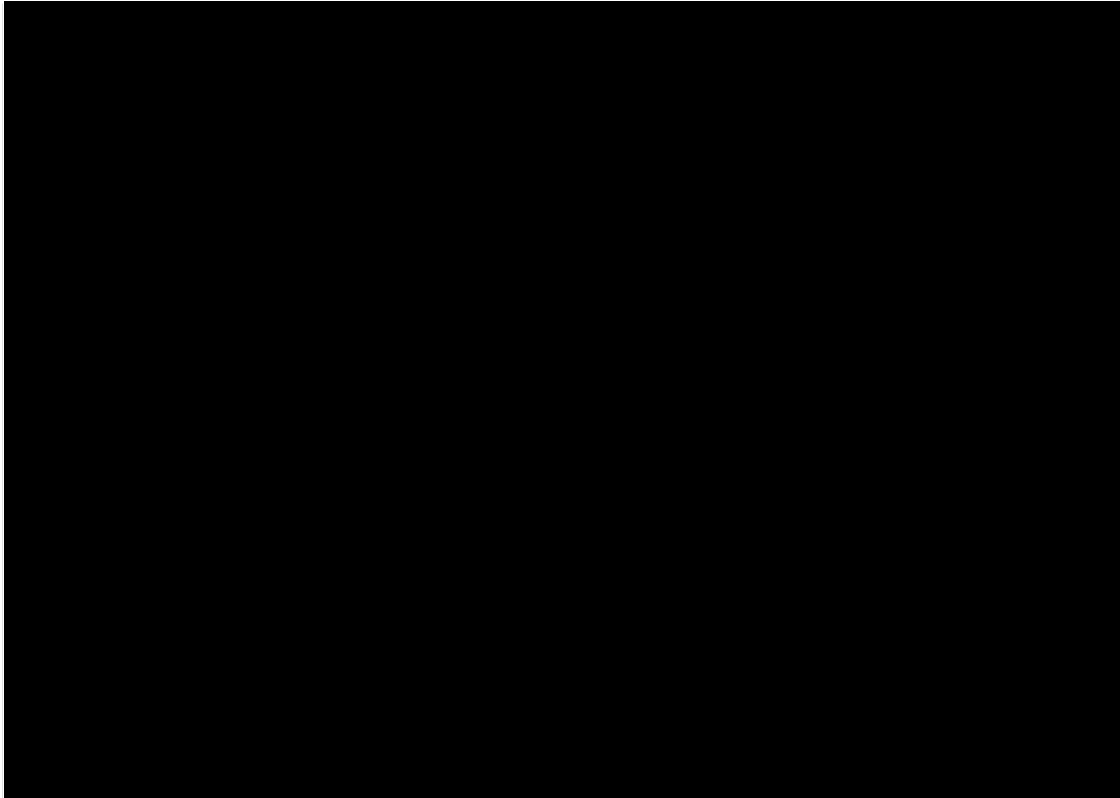




Exterior Marketability Function

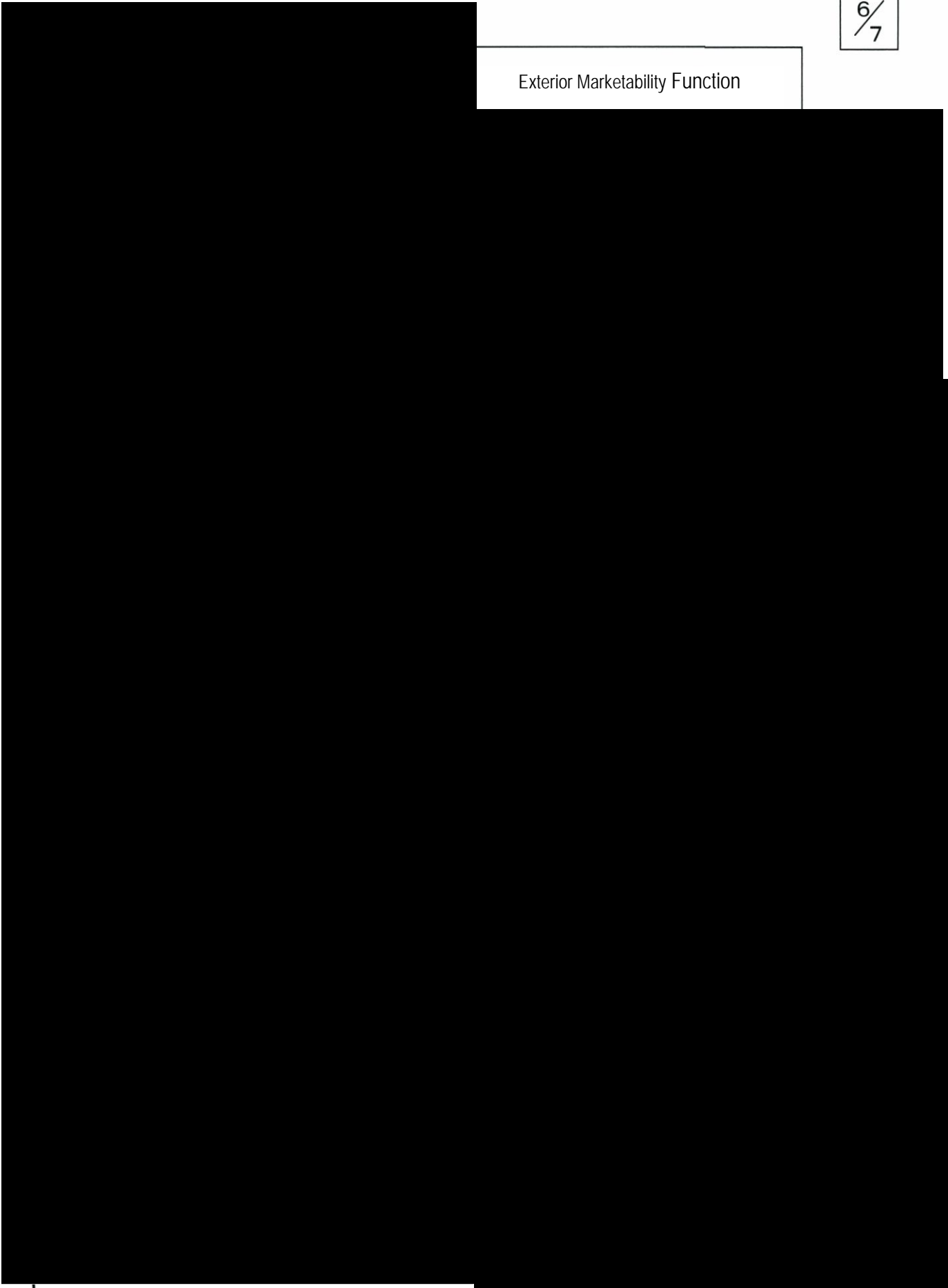
©1 Specification

O/Stay Tube diameter	28mm	GATE unit (wt)	38.3kg
O/Stay rod diameter	10mm		
O/Stay reaction force	825±15N		
O/Stay damping structure	Dynamic damping		
O/Stay oil level	3cc		

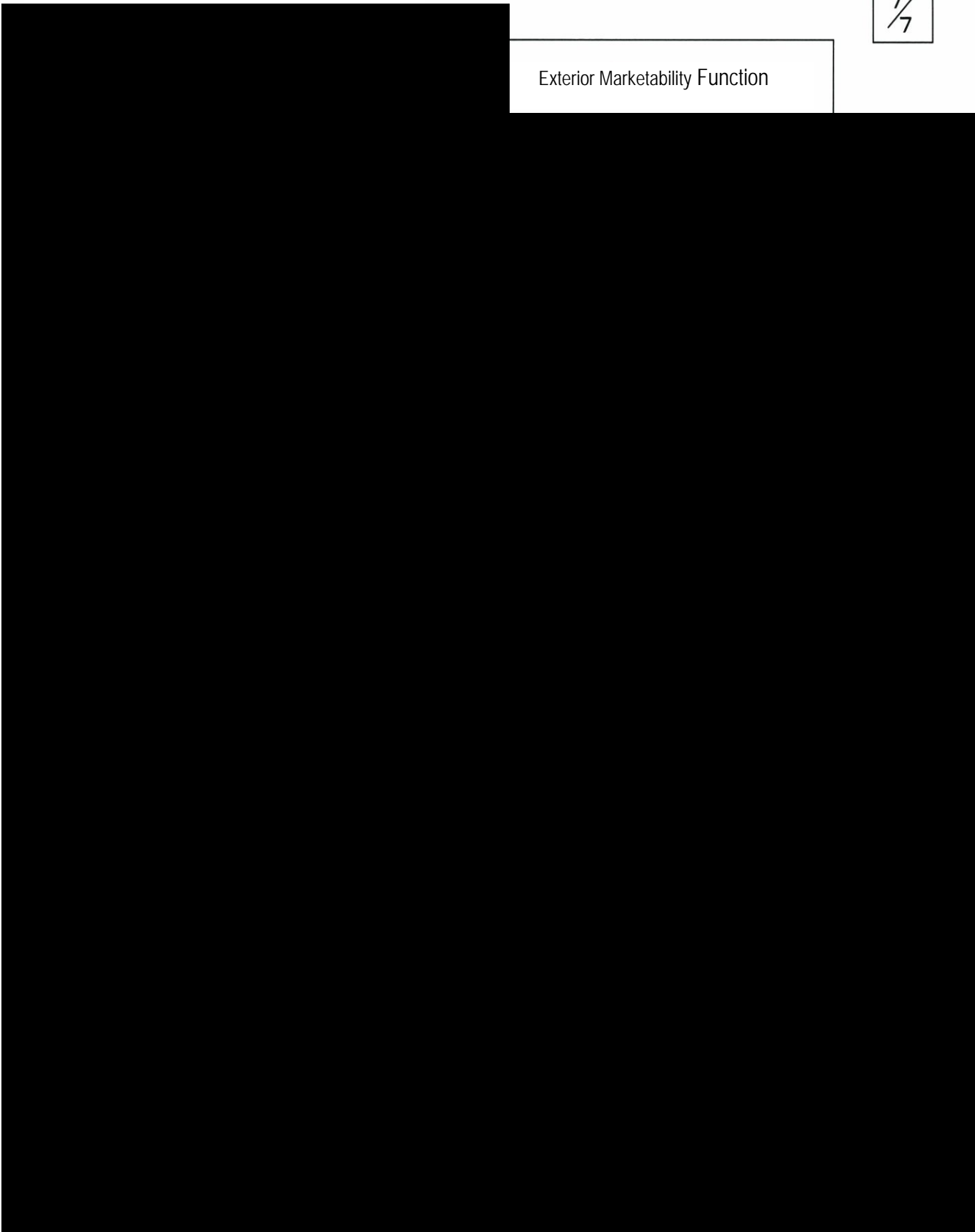




Exterior Marketability Function



Exterior Marketability Function



PE11-034

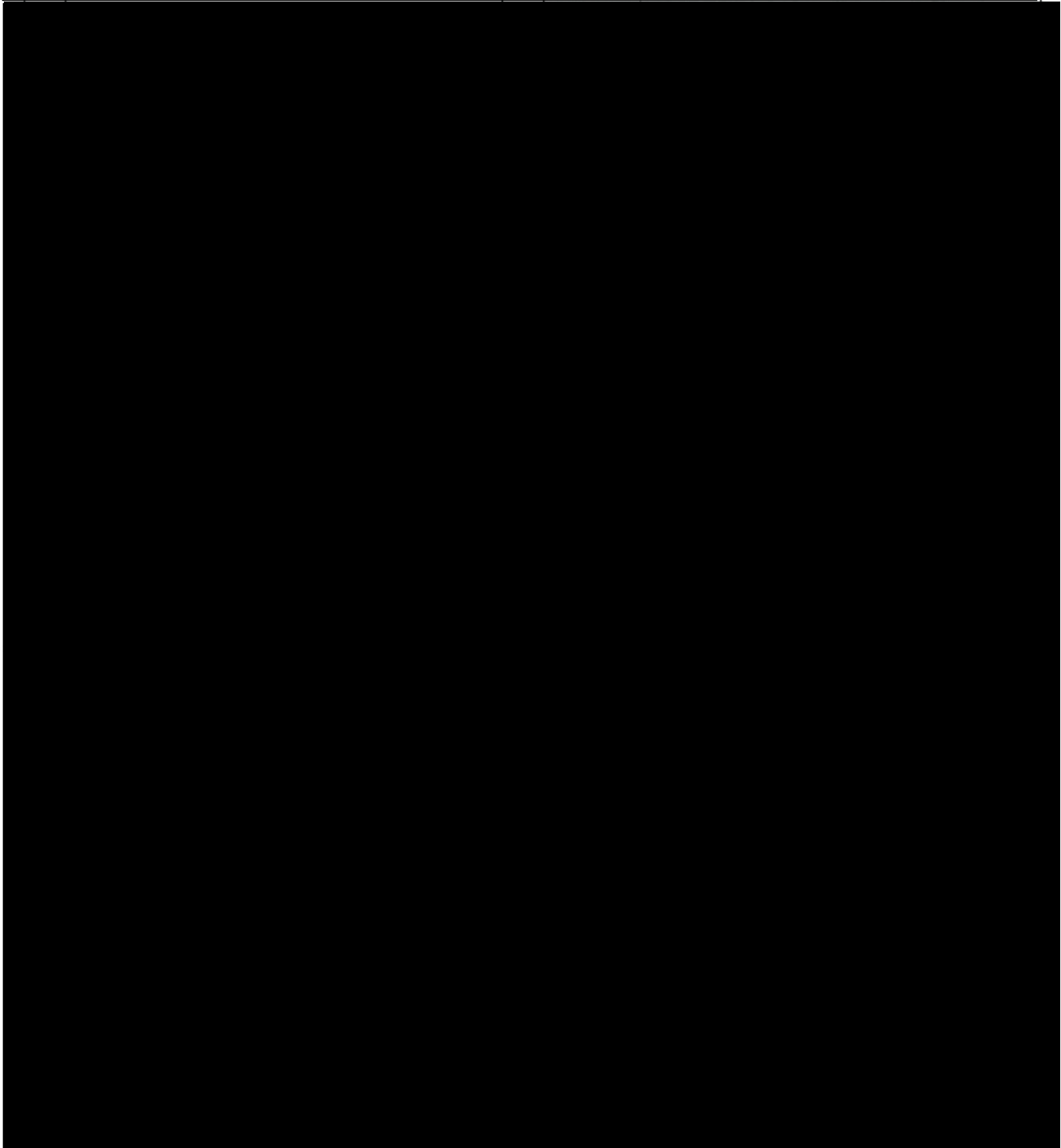
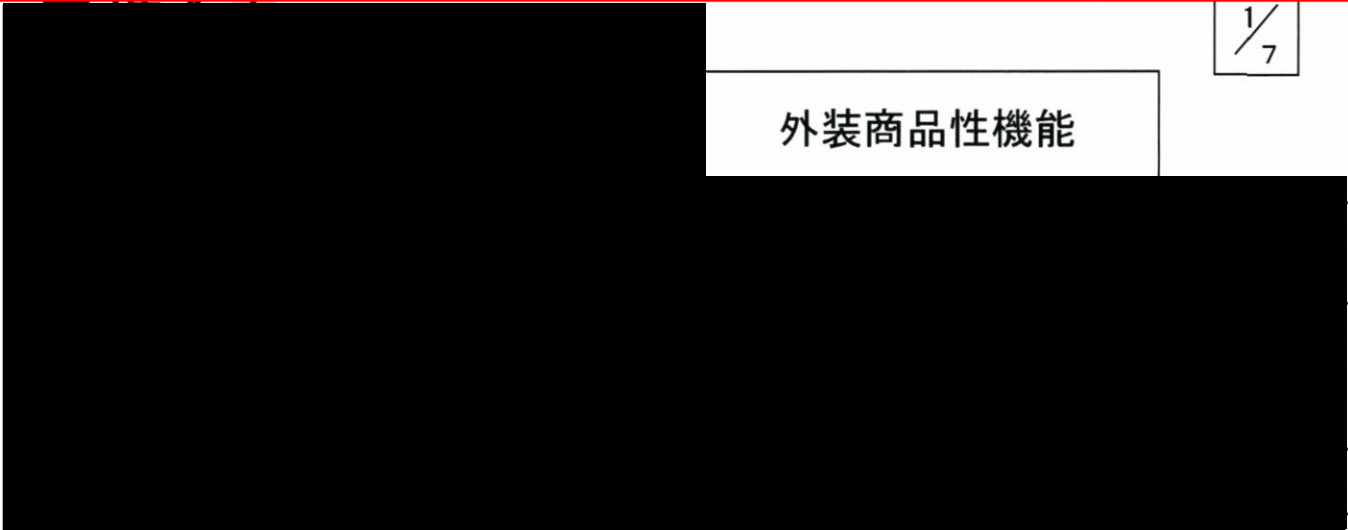
HONDA

11/22/2011

#Q9a QB08A0280022 (J)

REDACTED

外装商品性機能

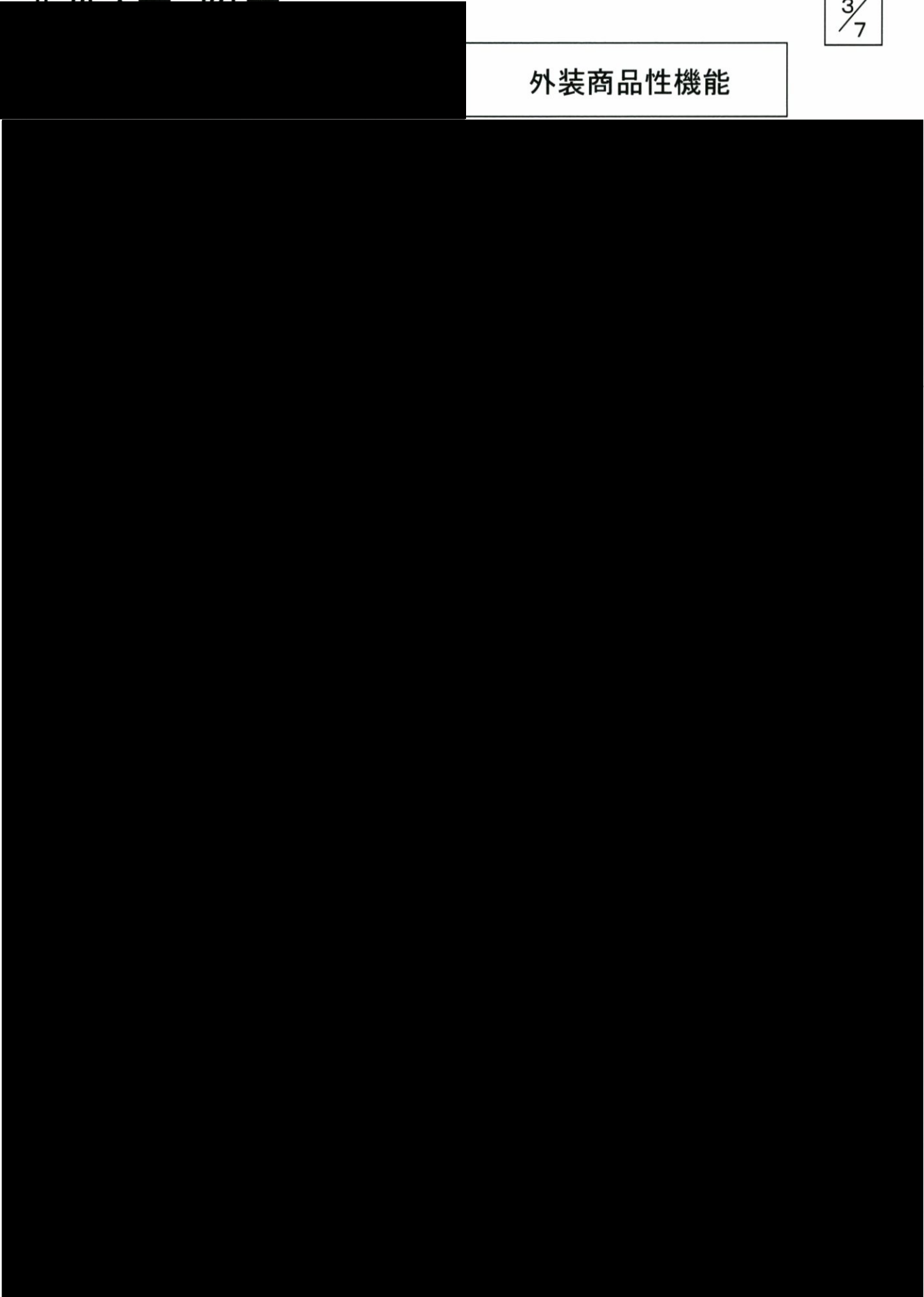


## 外装商品性機能

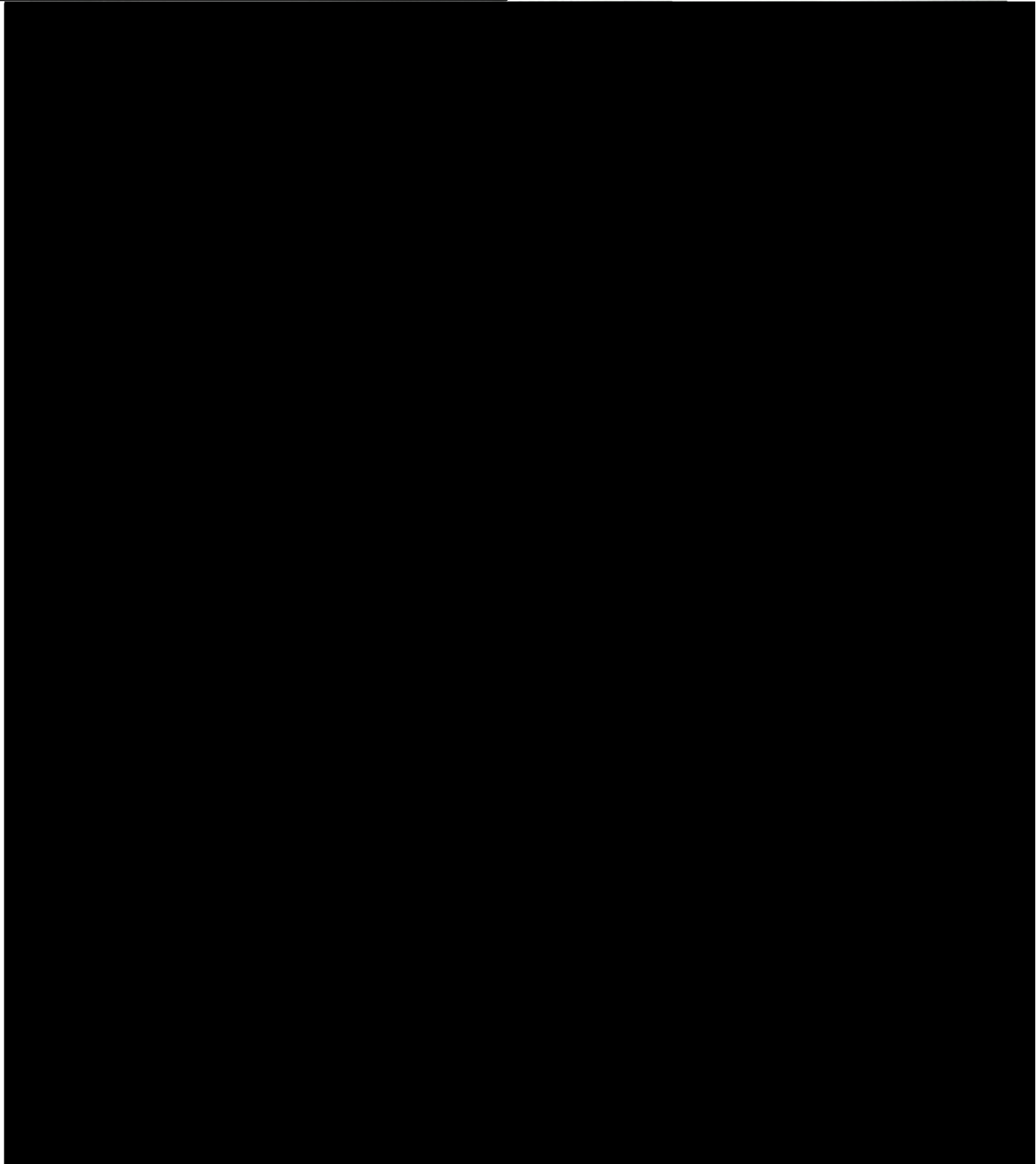
## ◎仕様

O/Sチューブ径	28mm	GATE単体 wt	36kg
O/Sロッド径	10mm		
O/S反力	770±15N		
O/S減衰構造	ダイミクダンポンク		
O/Sオイル量	3cc		

外装商品性機能



外装商品性機能



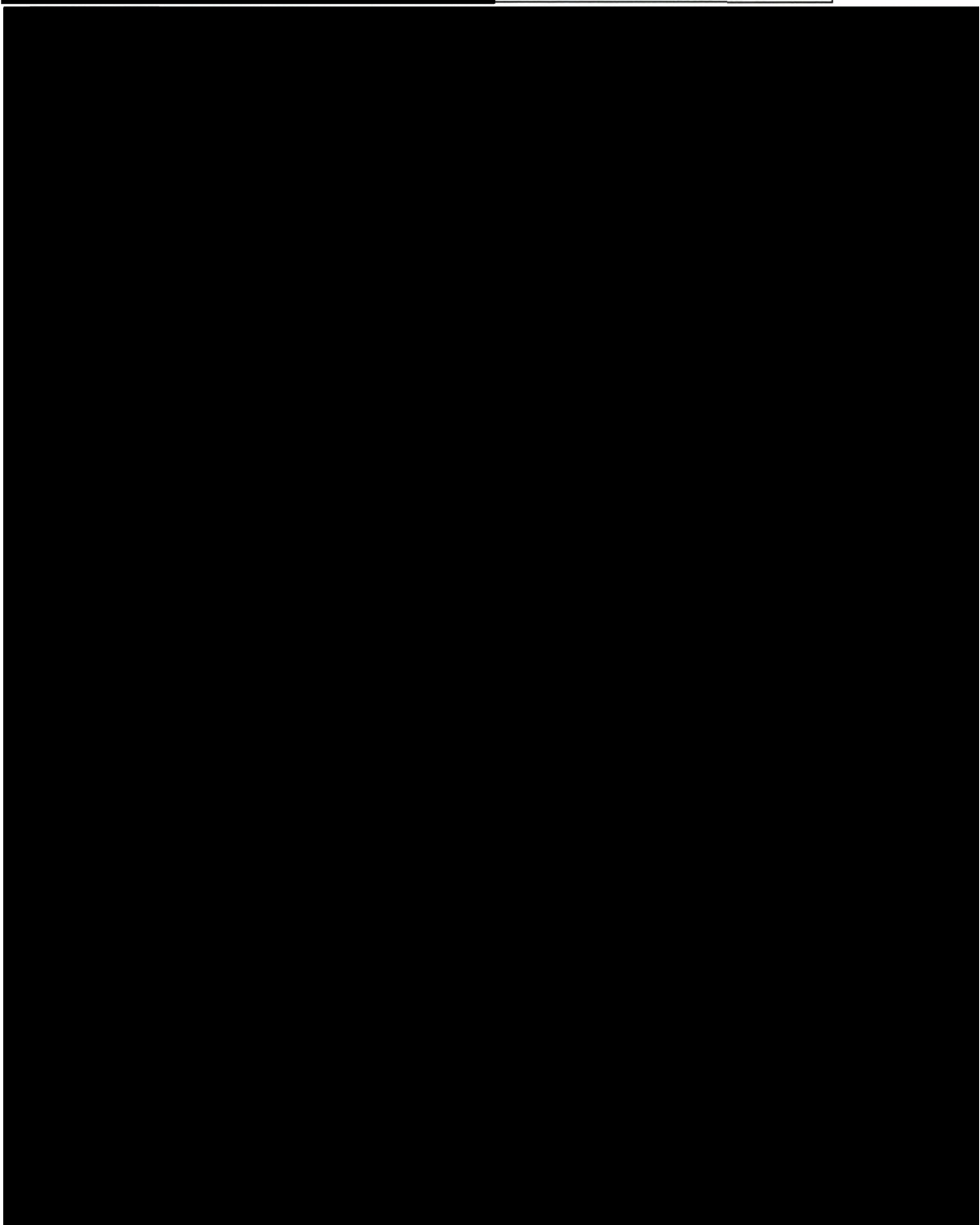
## 外装商品性機能

## ◎仕様

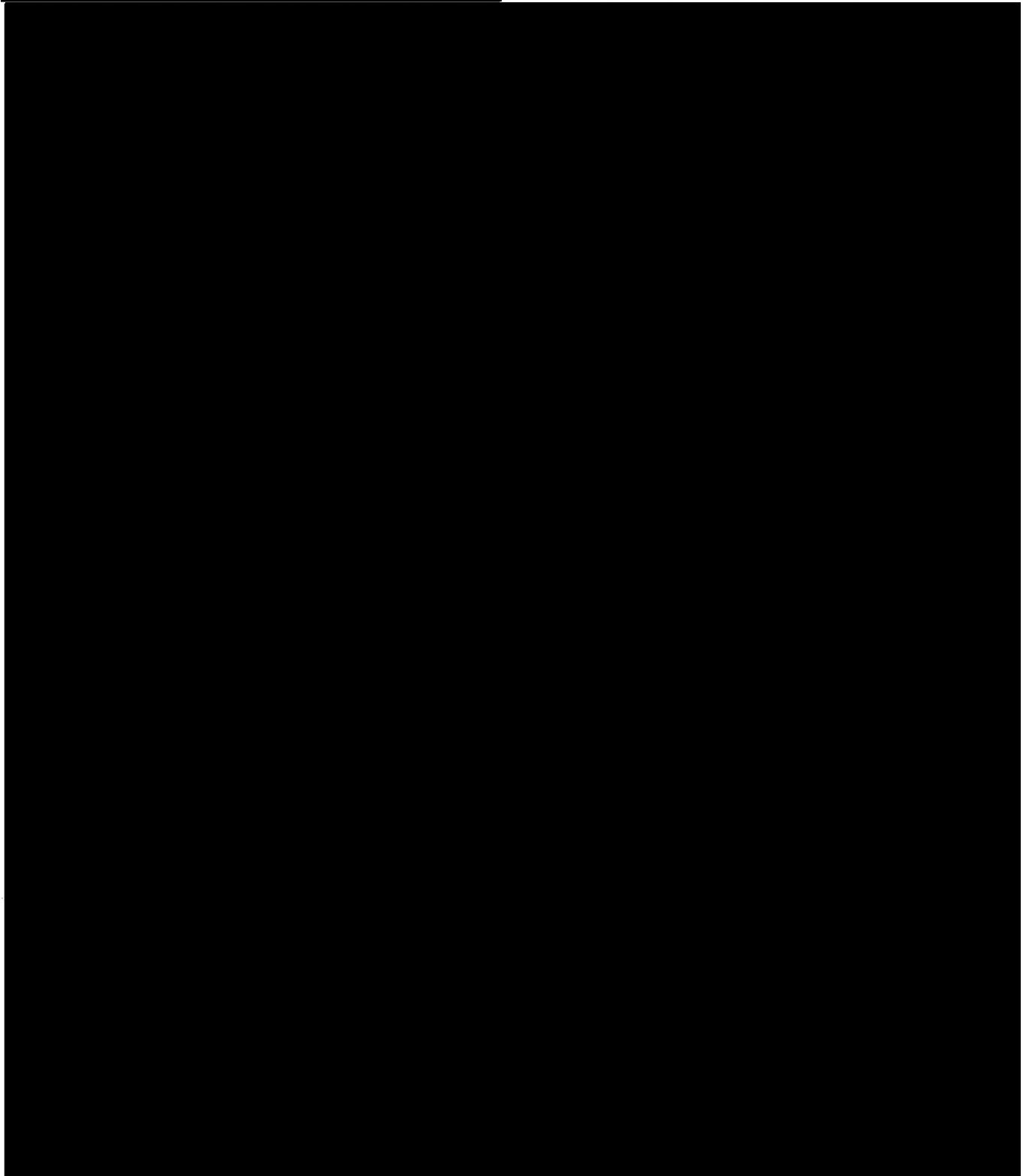
O/Sチューブ径	28mm	GATE単体 wt	38.3kg
O/Sロッド径	10mm		
O/S反力	825±15N		
O/S減衰構造	ダイミクダンピング		
O/Sオイル量	3cc		



外装商品性機能



外装商品性機能



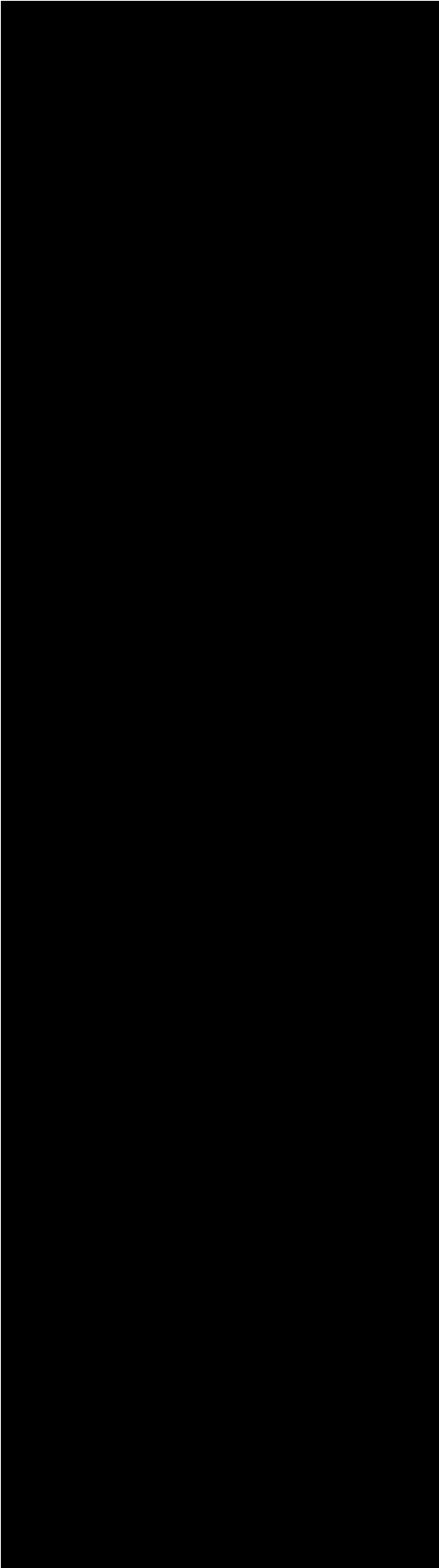
PE11-034

HONDA

11/22/2011

#Q9b QB08A0230029 (E)

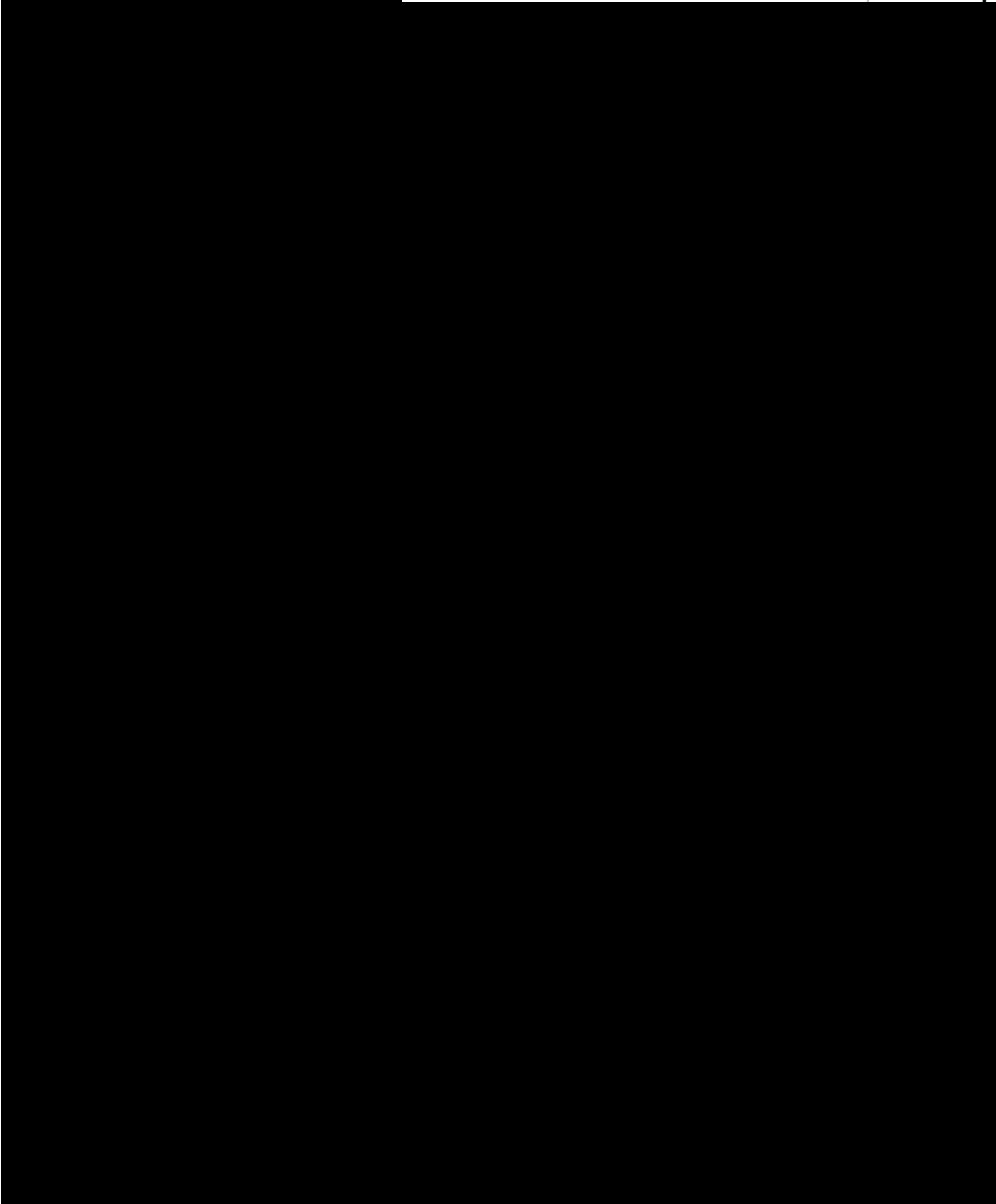
REDACTED

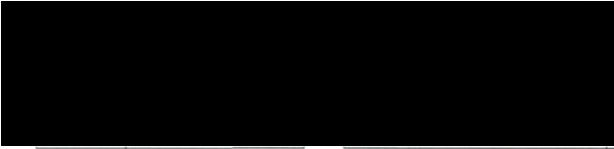


Durability Reliability of Body Strength

1  
7

Requirement A	Check timing
Opening/Closing system Tailgate Tailgate Opening/Closing durability	T-STEP





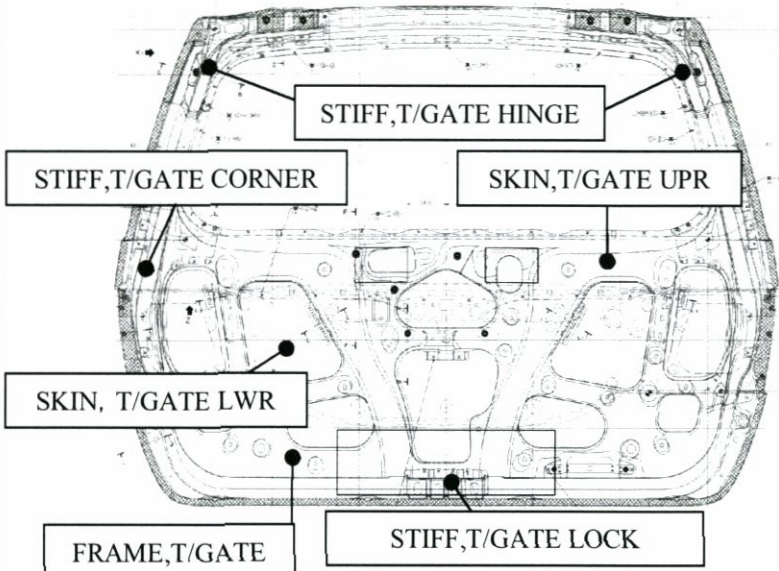
Durability Reliability of Body Strength

2  
7

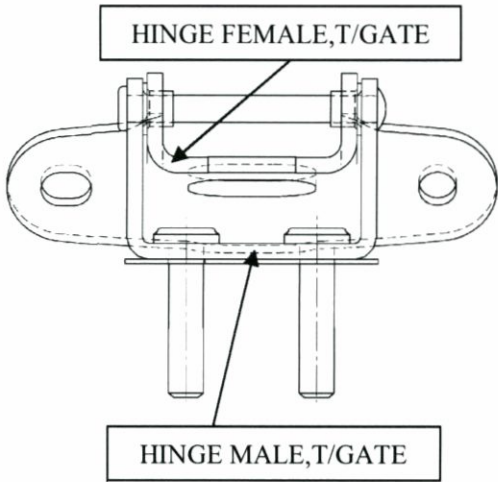
No.	Requirement A	Confirmation item
		Tailgate opening/closing durability

● Test specification

**•TAIL GATE COMP**



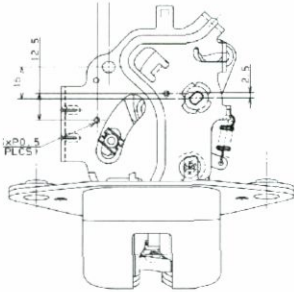
**•HINGE ASSY**



GATE COMP	Material	Thickness
SKIN, T/GATE UPR		t0.7
SKIN, T/ GATE LWR		t0.7
FRAME, TAIL GATE		t0.65
STIFF, T/GATE HINGE		t1.4
STIFF, T/GATE CORNER		t1.2
STIFF, T/GATE LOCK		t1.4

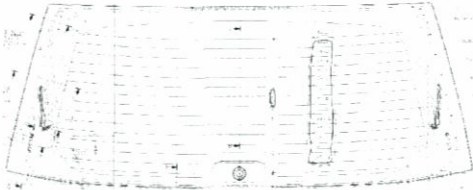
HINGE COMP	Material	Thickness
HINGE FEMAIL , T/GATE		t3.6
HINGE MAIL , T/ GATE		t3.6

**•LOCK, T/GATE**



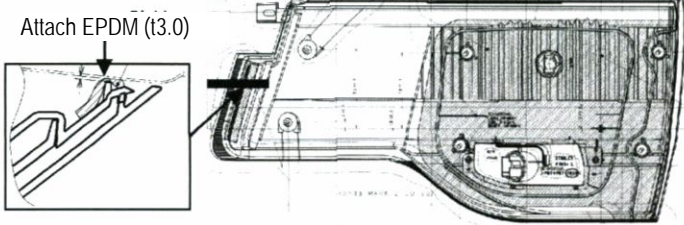
LOCK, T/GATE	Thickness
COVER PLATE	t2.3
BACK PLATE	t2.0

**•RR GLASS**



Thickness: t3.1

**•LIGHT ASSY, LID**



Durability Reliability of Body Strength

3  
7

Confirmation item

Tailgate opening/closing durability

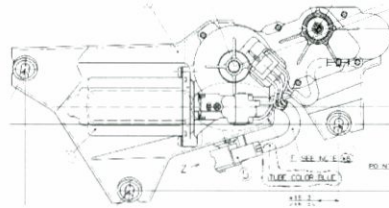
● Test specification

• **O/STAY**



Part number		74820-SHJ-A01
ROD reaction force	Max length	810±15N
	185.5mm	920N

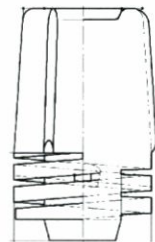
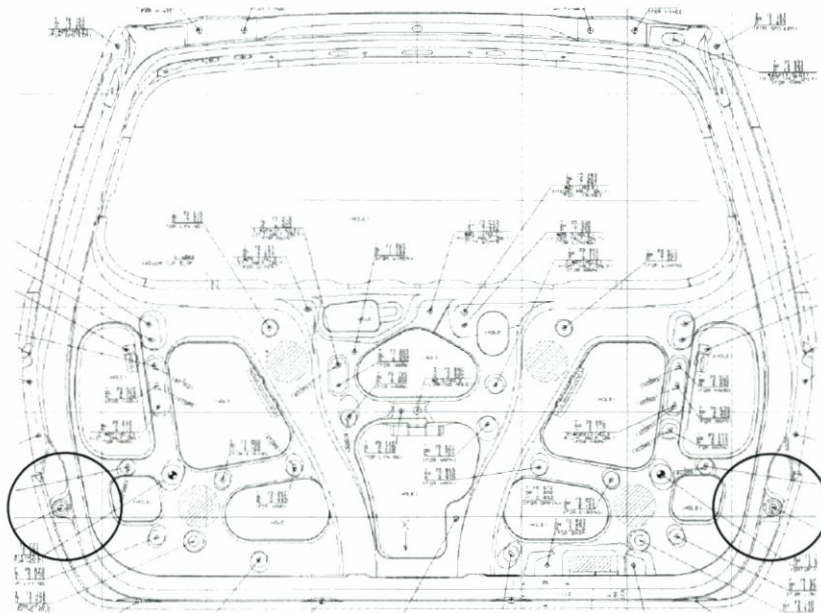
• **WIPER MOTER**



Part number	76700-SHJ-A01
Weight	1.057kg

• **STOPPER**

Installation position: 2 positions as shown below



<b>STOPPER</b>	
Part number	74829-S9A-A000
Hardness	[REDACTED]

• **SPOILER**



Part number	74900-SHJ-A31
Weight	2.110kg

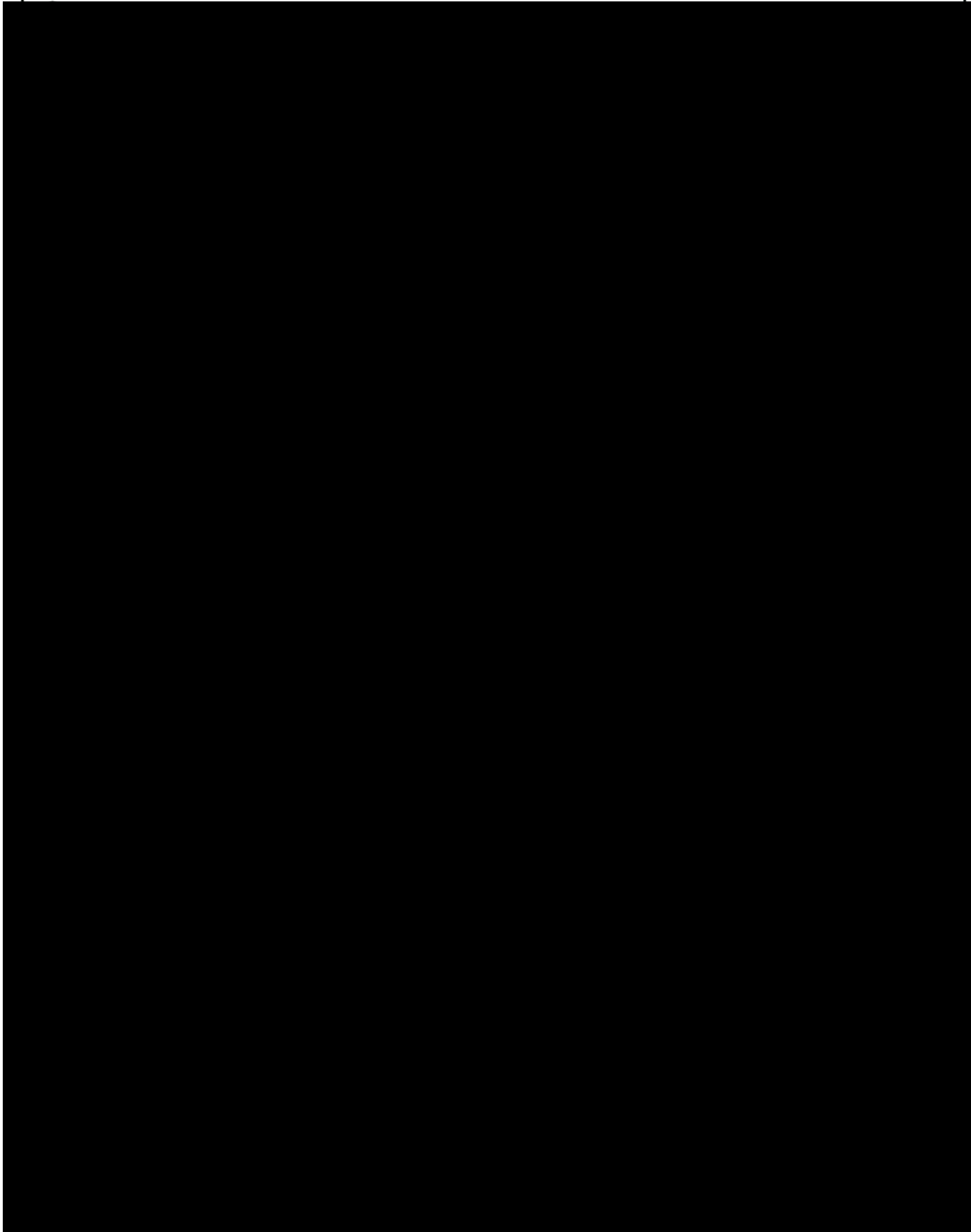
**ENTIRE PAGE BUSINESS CONFIDENTIAL INFORMATION**



Durability Reliability of Body Strength

4  
7

Confirmation item
Tailgate opening/closing durability



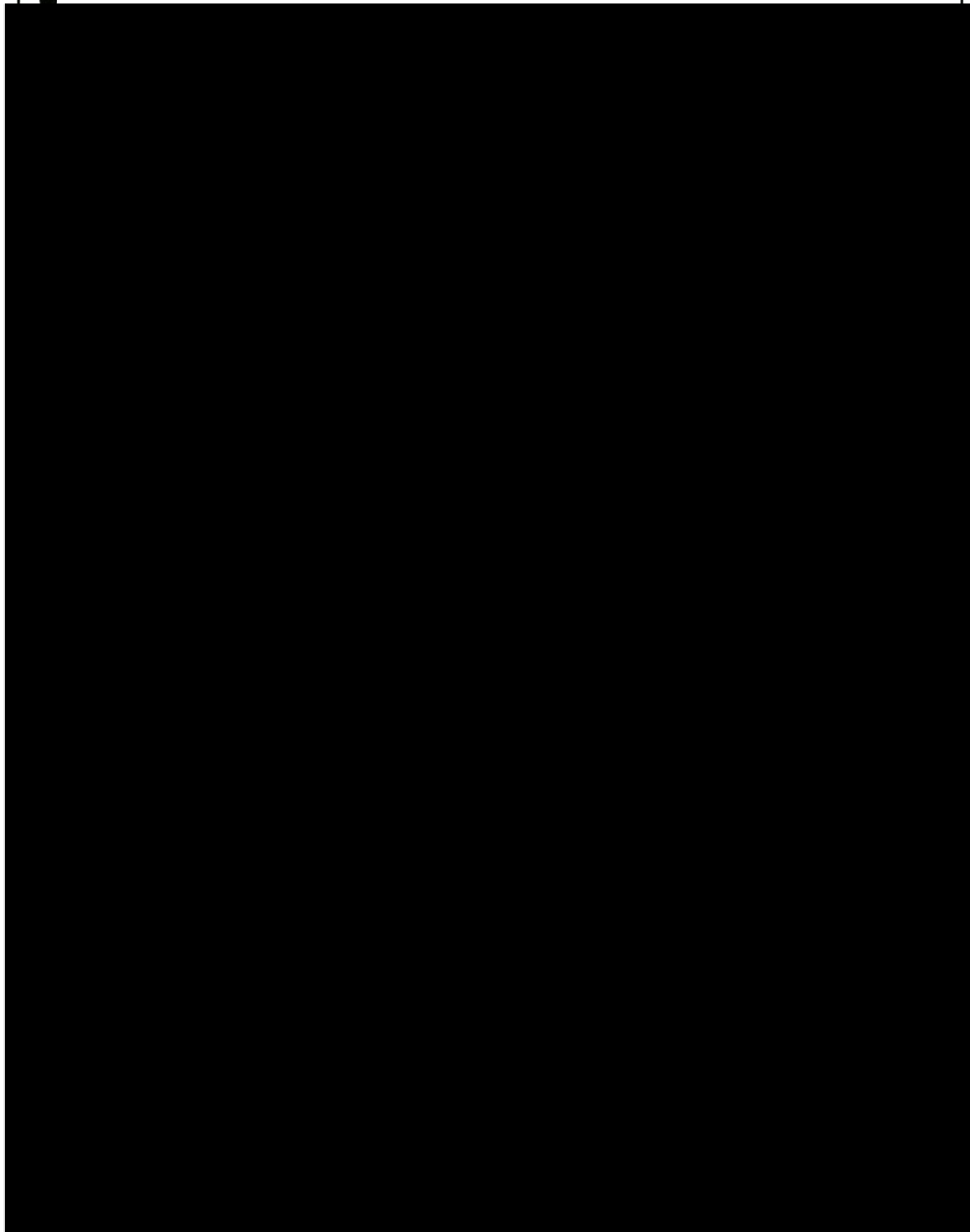
**ENTIRE PAGE BUSINESS CONFIDENTIAL INFORMATION**



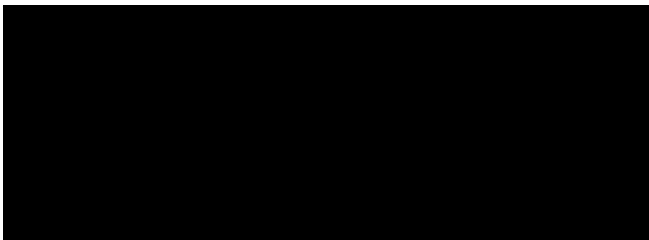
Durability Reliability of Body Strength

5  
7

Confirmation item
Tailgate opening/closing durability





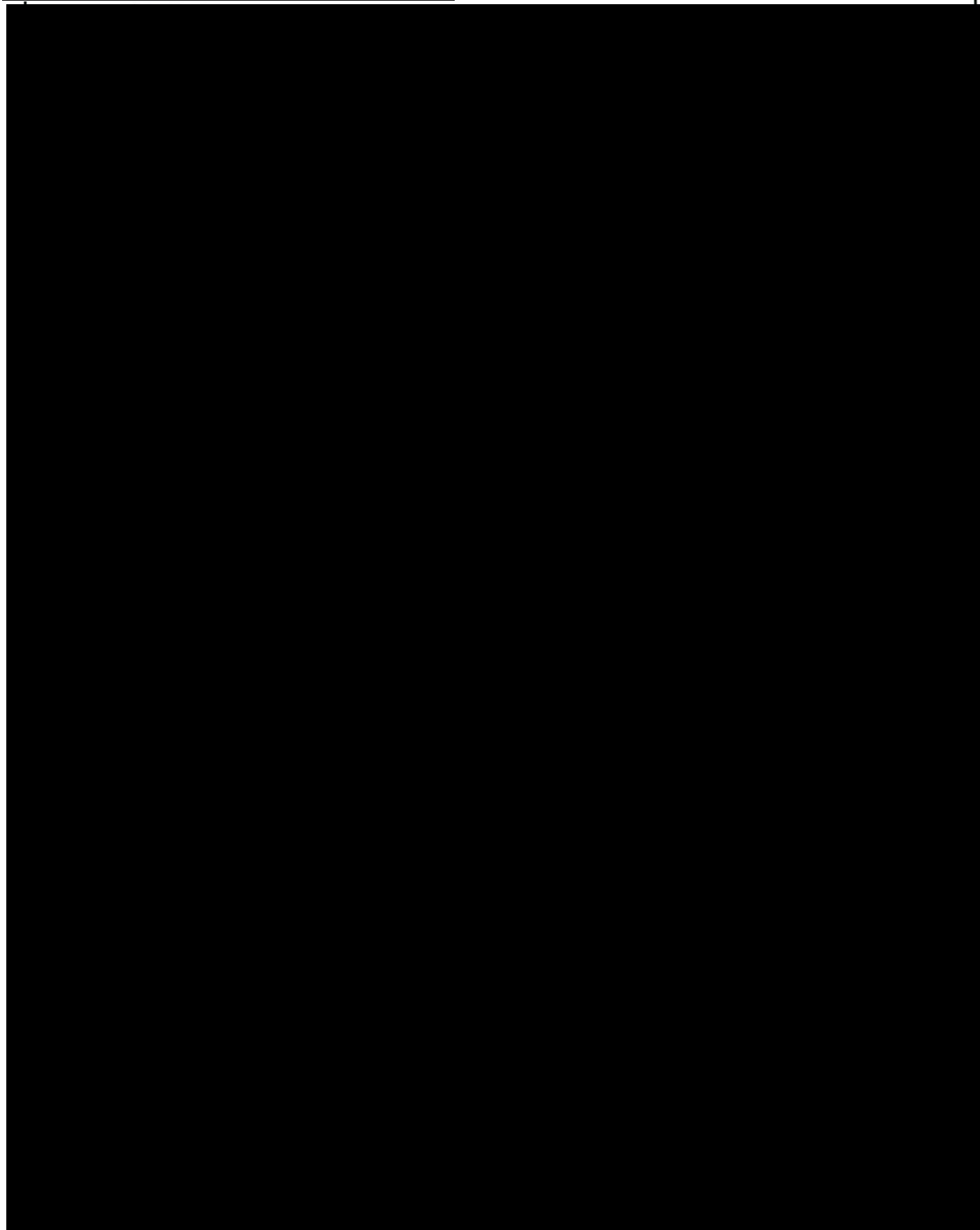


Durability Reliability of Body Strength

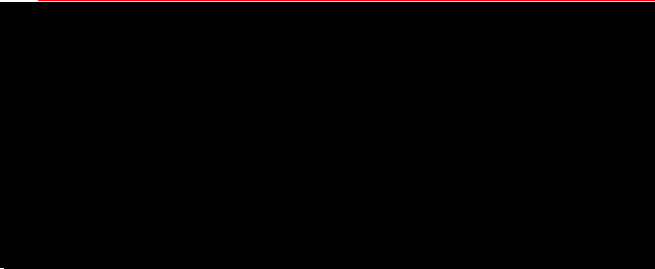
6  
7

Confirmation item

Tailgate opening/closing durability



**ENTIRE PAGE BUSINESS CONFIDENTIAL INFORMATION**

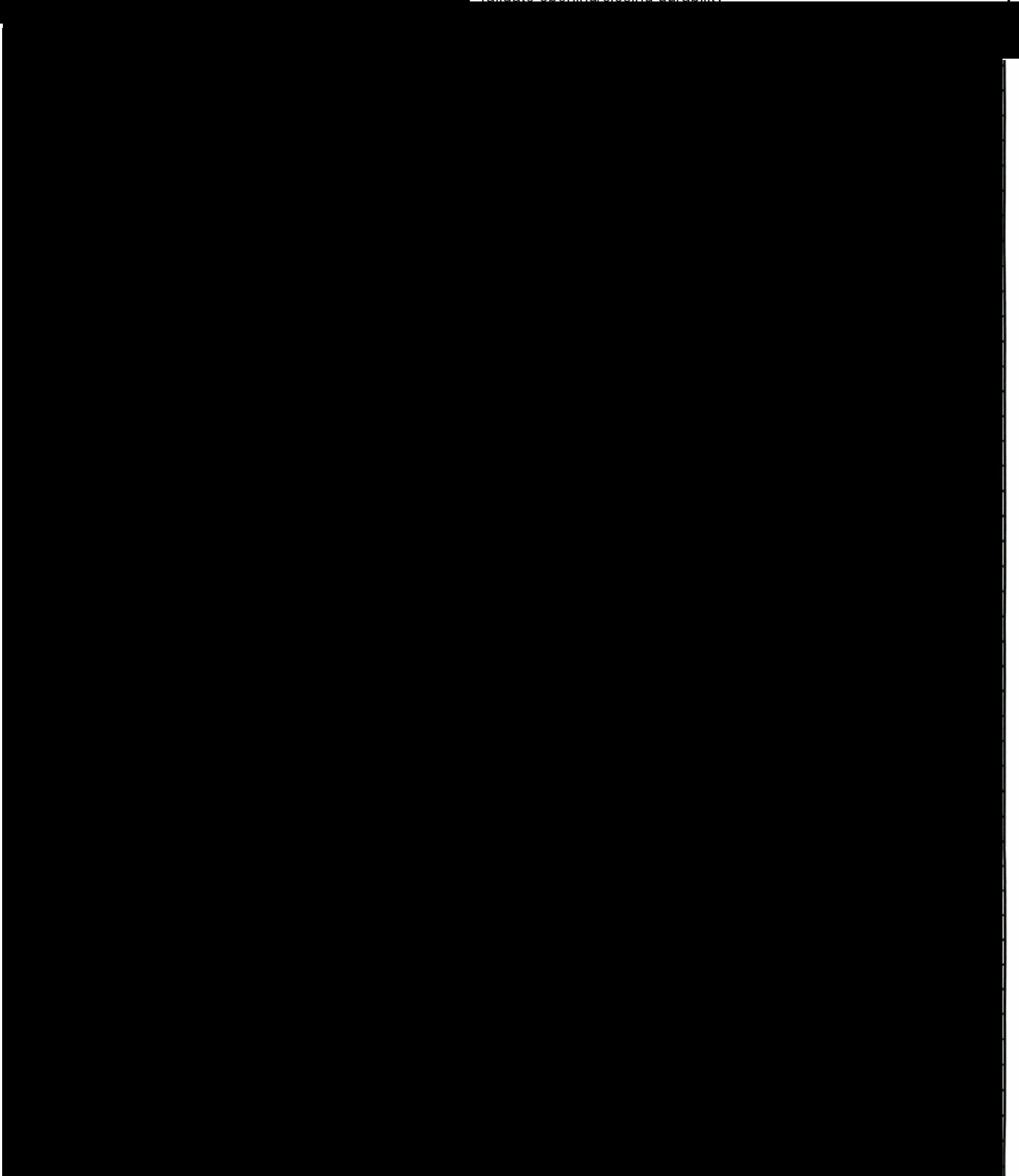


Durability Reliability of Body Strength

7  
7

Confirmation item

Tailgate opening/closing durability



PE11-034

HONDA

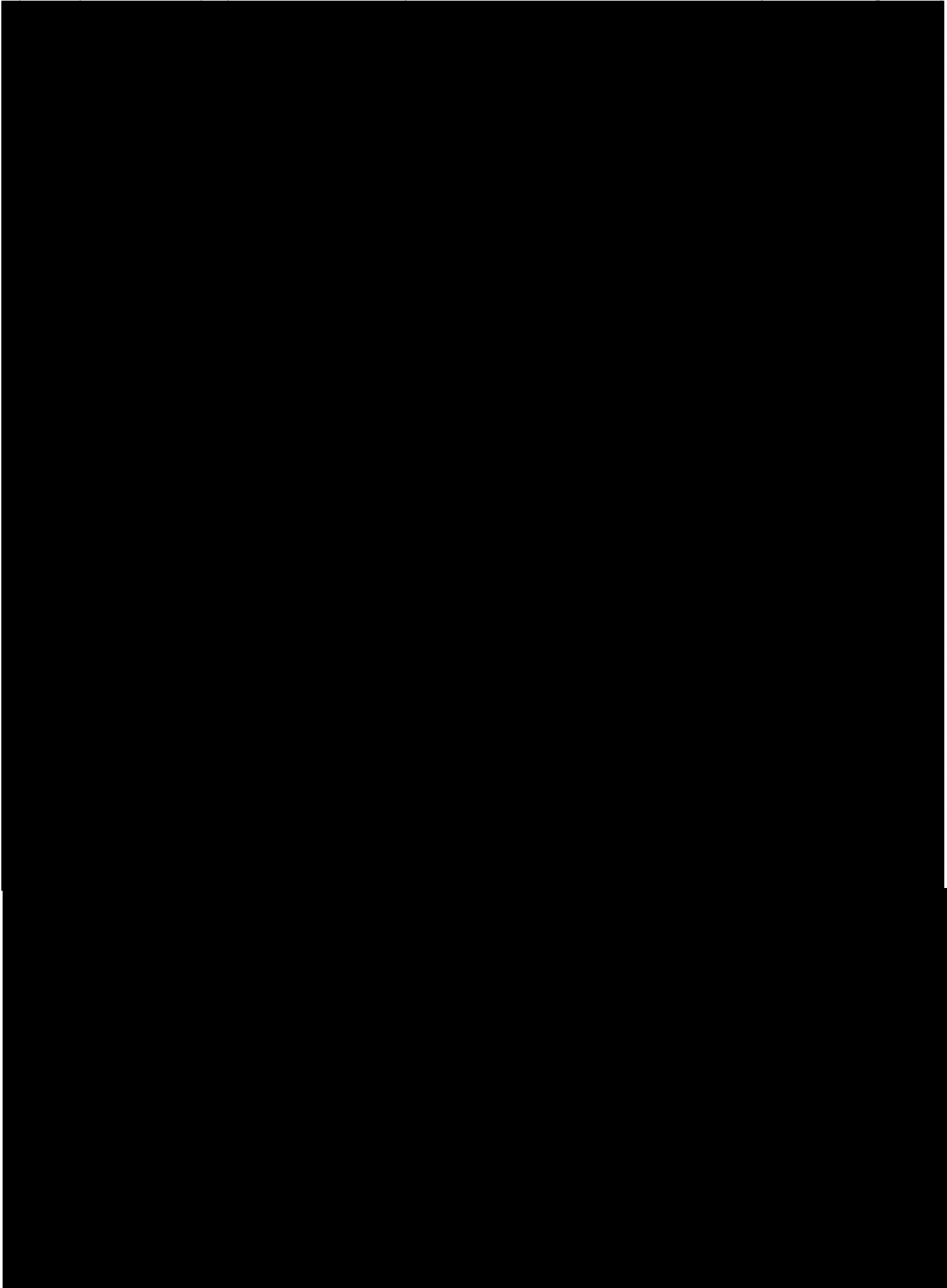
11/22/2011

#Q9b QB08A0230029 (J)

REDACTED

車体強度耐久信頼性

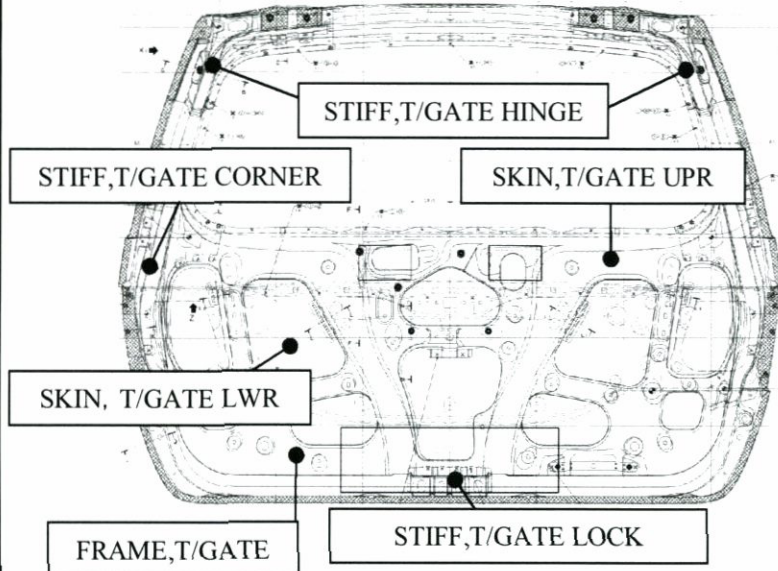
1  
7



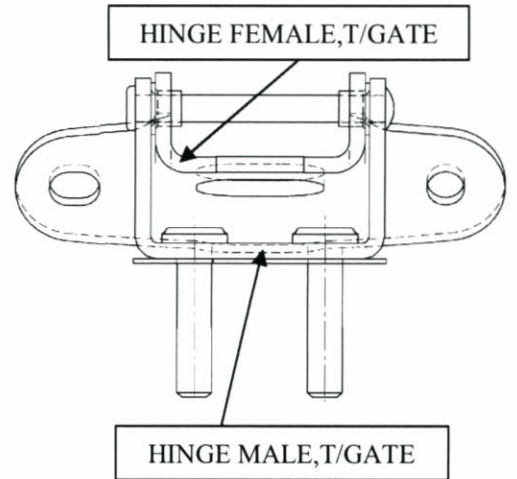
要件No.	要件 A	確認項目
7-4-2	テールゲート	テールゲート開閉耐久

●テスト仕様

・TAIL GATE COMP



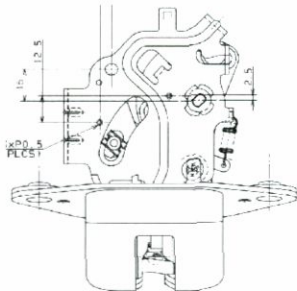
・HINGE ASSY



GATE COMP	材質	板厚
SKIN, T/GATE UPR		t0.7
SKIN, T/ GATE LWR		t0.7
FRAME, TAIL GATE		t0.65
STIFF, T/GATE HINGE		t1.4
STIFF, T/GATE CORNER		t1.2
STIFF, T/GATE LOCK		t1.4

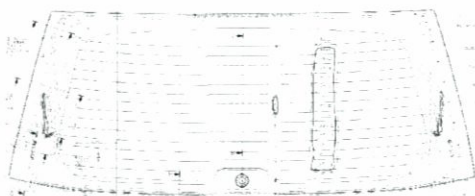
HINGE COMP	材質	板厚
HINGE FEMAIL , T/GATE		t3.6
HINGE MAIL , T/ GATE		t3.6

・LOCK, T/GATE



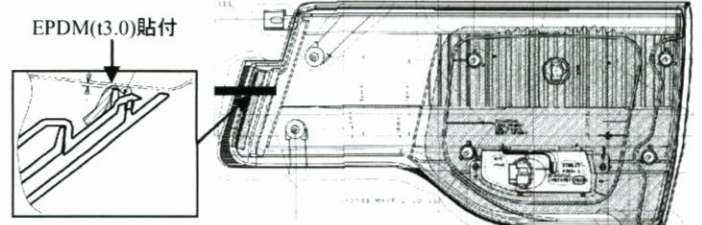
LOCK, T/GATE	材質	板厚
COVER PLATE		t2.3
BACK PLATE		t2.0

・RR GLASS



板厚:t3.1

・LIGHT ASSY, LID



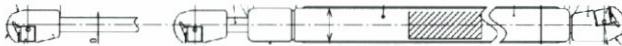
車体強度耐久信頼性

3 / 7

要件No.	要件 A	確認項目
7-4-2	テールゲート	テールゲート開閉耐久

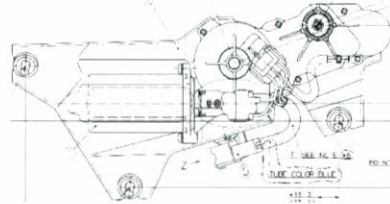
●テスト仕様

・O/STAY



部番	74820-SHJ-A01	
ROD反力	MAX長時	810±15N
	185.5mm時	920N

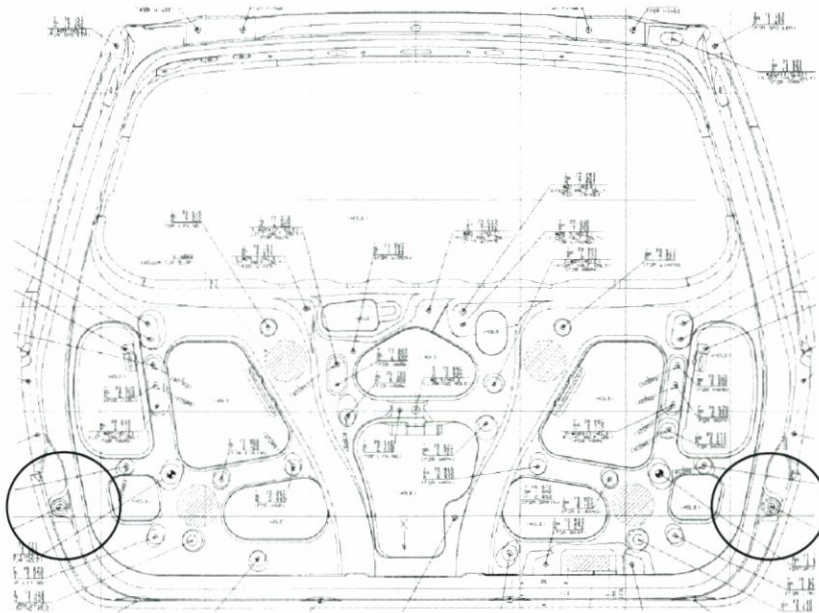
・WIPER MOTER



部番	76700-SHJ-A01
重量	1.057kg

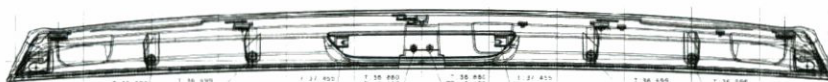
・STOPPER

取付け位置 下記2箇所



	STOPPER
部番	74829-S9A-A000
硬度	

・SPOLER

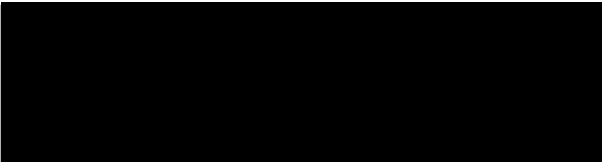


部番	74900-SHJ-A31
重量	2.110kg

車体強度耐久信頼性

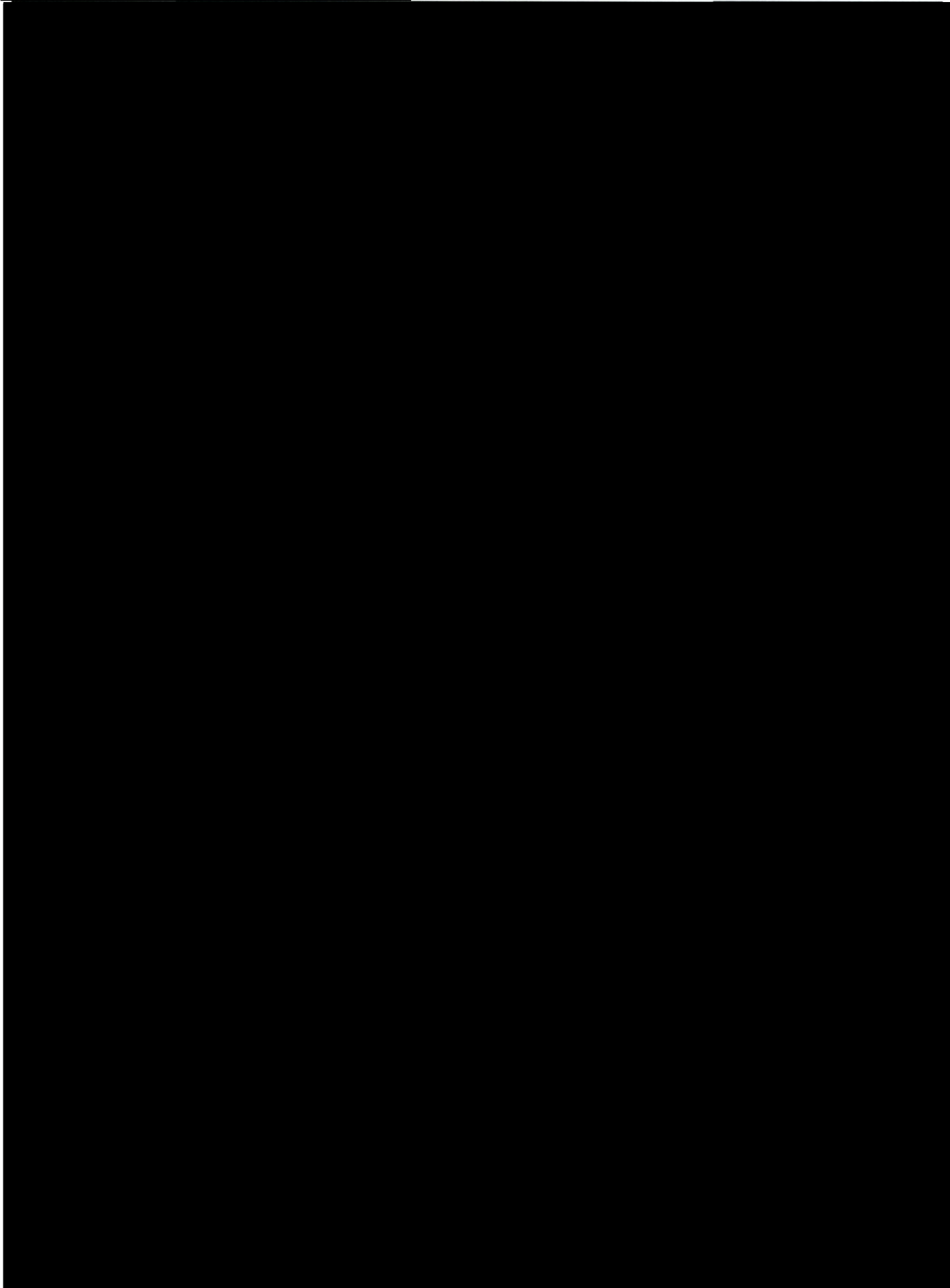
4

7



車体強度耐久信頼性

5  
7

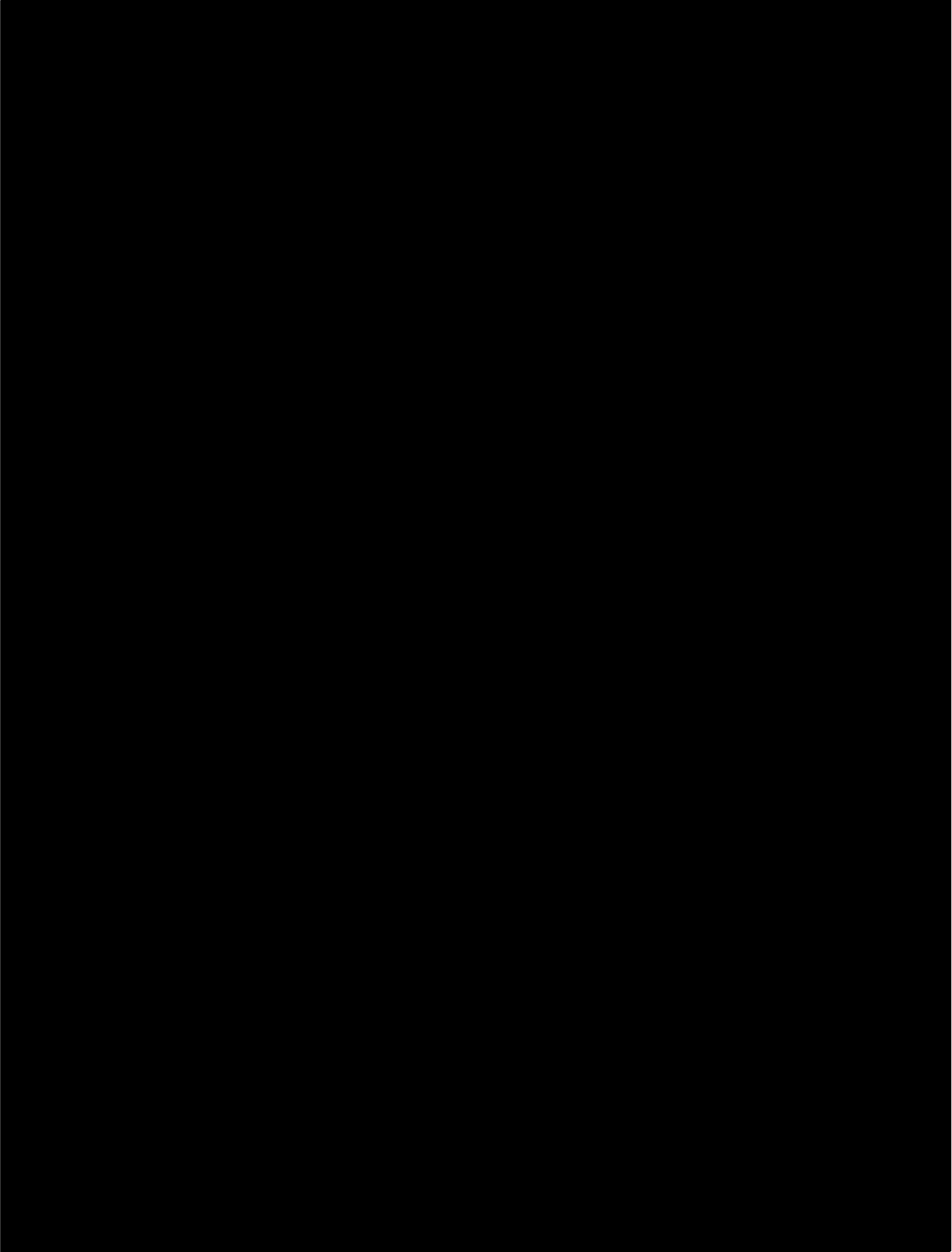




車体強度耐久信頼性

6

7



車体強度耐久信頼性

7

7

PE11-034

HONDA

11/22/2011

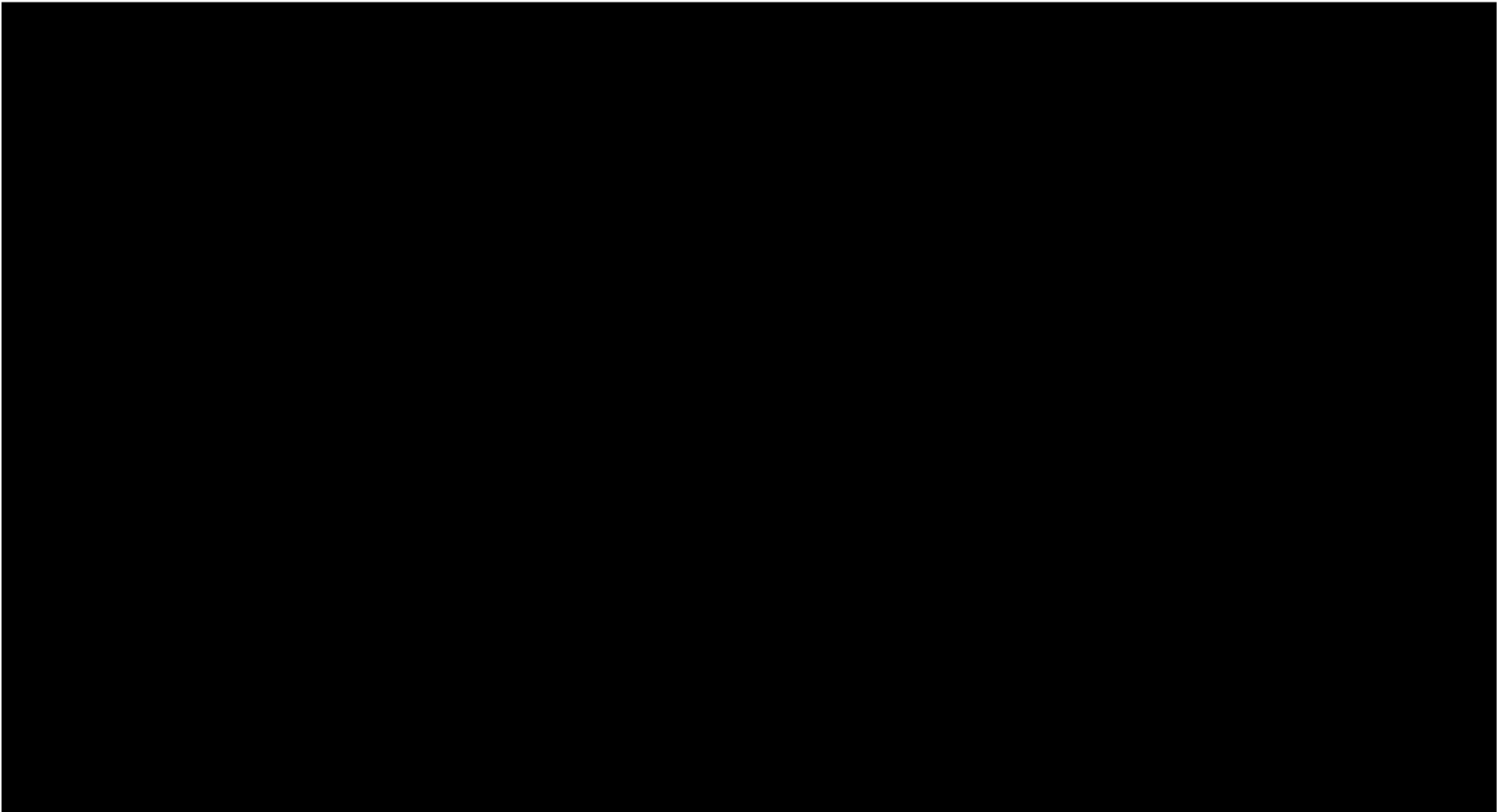
#Q10 (HMA) REDACTED

**Q10**

# SHJ Tailgate Open Stay Design Change History (08-10M)

## PTG Open stay Assy D/C history and Production units

ENTIRE SLIDE BUSINESS CONFIDENTIAL INFORMATION



# 1. Design Change (C47-2-2863) -History

**ENTIRE SLIDE BUSINESS CONFIDENTIAL INFORMATION**



# 1. Design Change (C47-2-2863) -D/C Issuance

## DC# C4722863

### MASS PRODUCTION SPEC. NOTICE

SUKIMA NO.  
ZMC-3016  
PIC TEL: 43823

Revision No. 1/1

Dept. 2S1ボEX	Approved By [Signature]	Prepared By 阿部 和広	Issue Date 04・SEP・07	Cont. Dept 大木,	Revision No. C47-2-2863
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TITLE: 08M US ODYSSEY TGATE O/STAY の変更

Content

1. 標題に依る
2. 以下の図面を改訂する  
74820-SHJ-ZX10-M1... DWG, TGATE OPEN STAY ASSY
3. 商品性向上の為、TGATE O/STAYの反力を変更  
NORMAL仕様 F3: 810N ⇒ 770N  
PTG仕様 F3: 865N ⇒ 825N

Related Request No.  
SHJX-700082

**Power and normal tailgate strut pressure have been changed from 08M.**  
**テールゲートの重量変更により、08Mからダンパーの反力を低減**  
**設変時期の関係から、実際の物適用は08Mの途中から切り替え実施**

Lvl	Plant	Part Number	Part Name	Model	Section Code	MBPN	SZ	RS	P
*	AX	74820SHJ ZX10M1	DWG,TGATE OPEN STAY ASSY	----	---	-	6	03	Z
1	AX	74820SHJ A210M1	OPEN STAY ASSY,T/GATE	SHJX	F24	N	M	03	M
1	AX	74820SHJ A710M1	OPEN STAY ASSY,T/GATE	SHJX	F24	N	M	03	M
1	AX	74820SHJ A012M1	OPEN STAY ASSY,T/GATE	SHJX	F24	-	M	--	-
1	AX	74820SHJ A612M1	OPEN STAY ASSY,T/GATE	SHJX	F24	-	M	--	-
*	AX	*****	*****	****	---	-	--	--	-

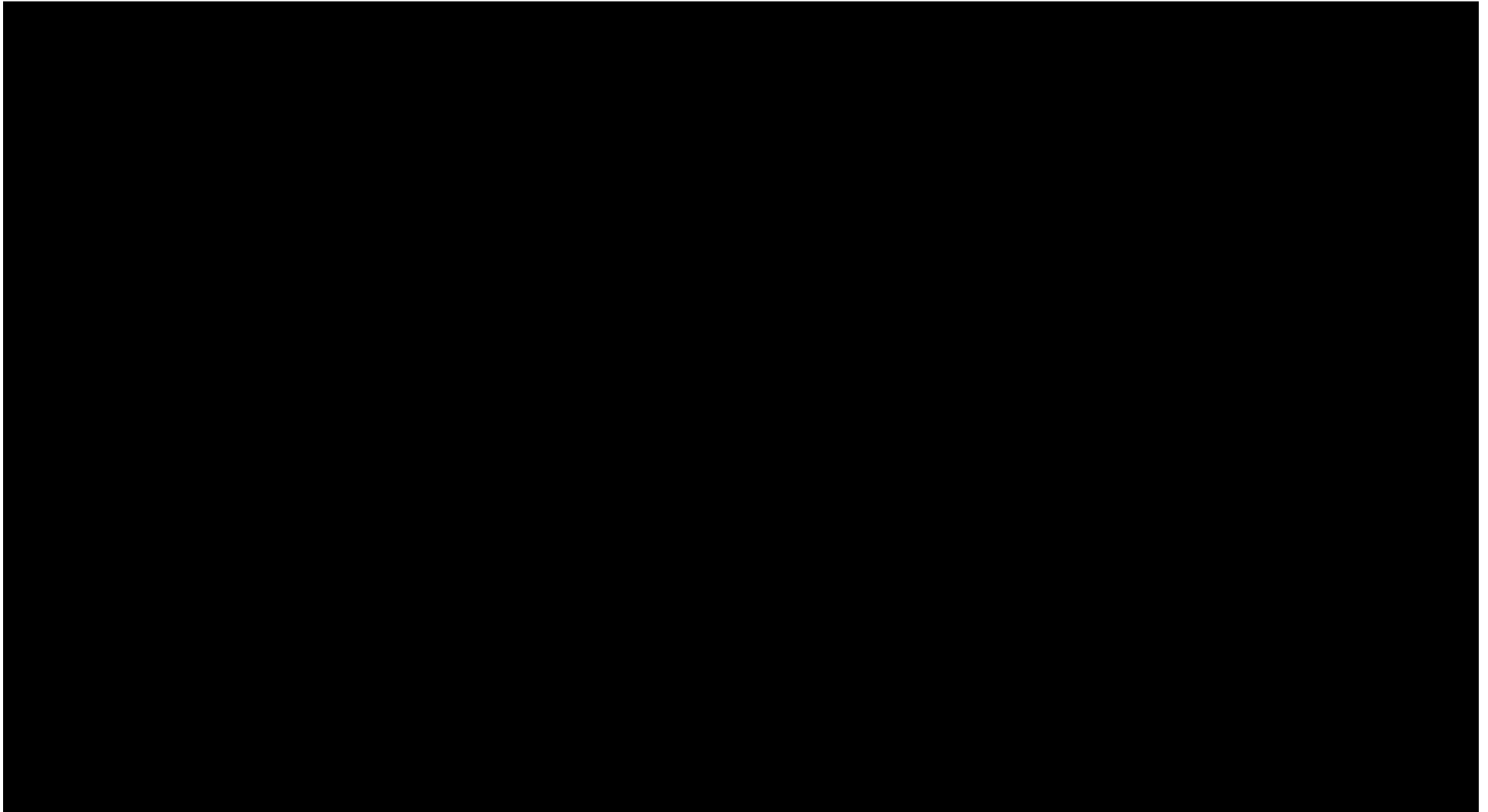
Code Comments

- 1 Pressure change per HGT CRF SHJX-700082. Manual pressure from 810 N to 770 N. PTG pressure from 865 N to 825 N. Applying on 10/17 by supplier so HMA does not pay ~\$100,000 expedite costs per CIE meeting with QA on 9/27/07.
- 2 Delete from SHJX application.

# SHJ Tailgate Open Stay Design Change History (08-10M)

PTG Open stay Assy D/C history and Production units

ENTIRE SLIDE BUSINESS CONFIDENTIAL INFORMATION

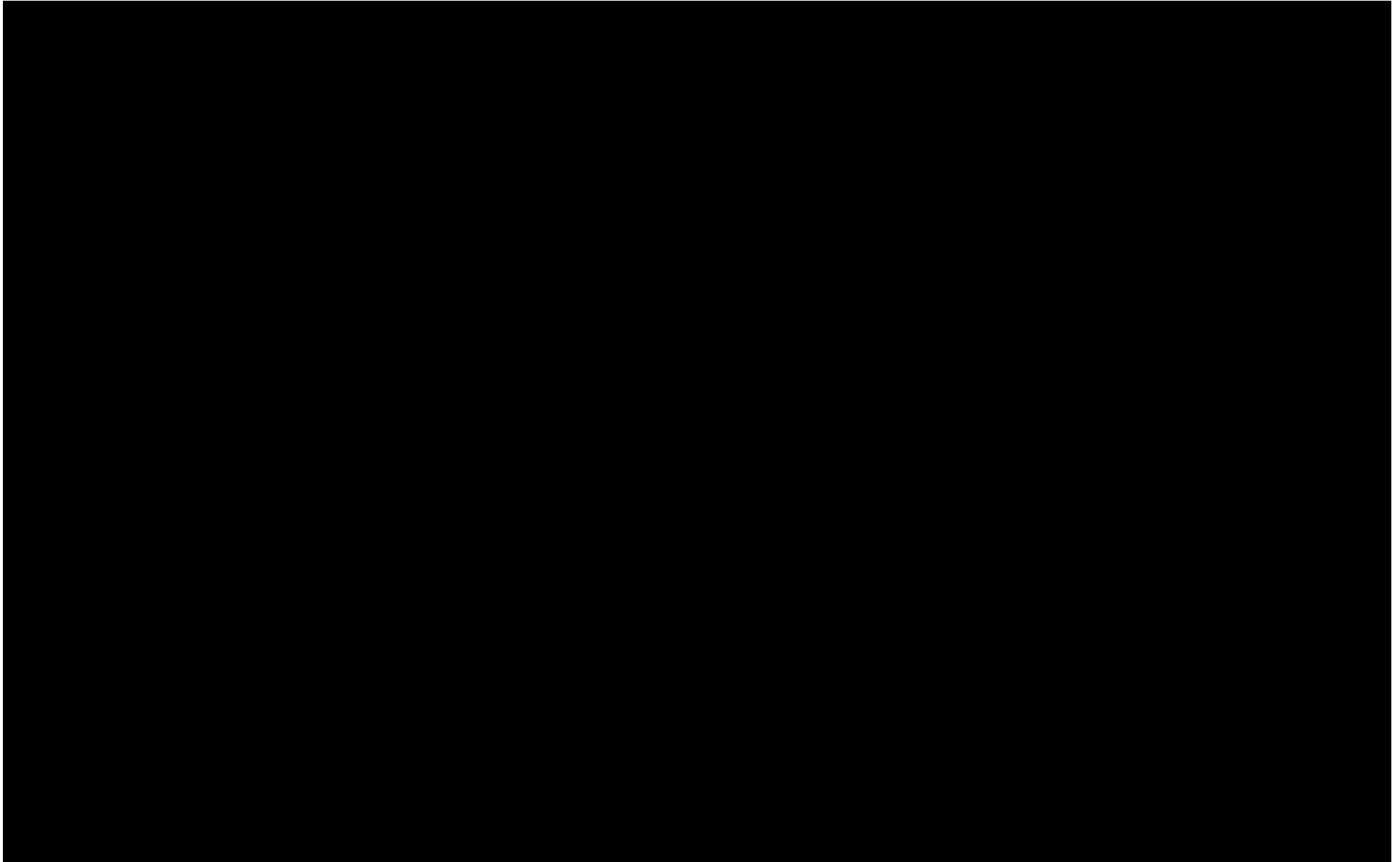




## 2. Design Change (AXA900926)

HMA MI # AXA900926

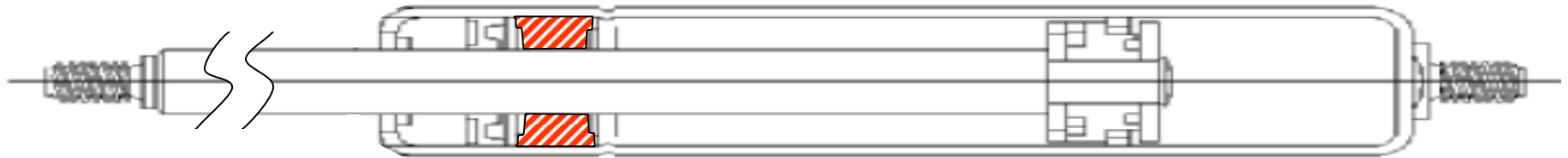
ENTIRE SLIDE BUSINESS CONFIDENTIAL INFORMATION



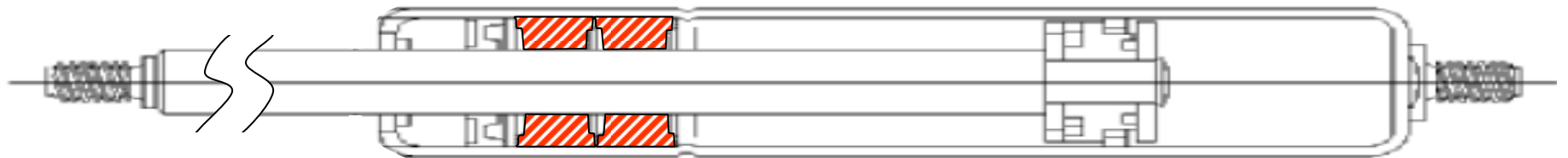
## 2. Design Change (AXA900926)

### HMA MI# AXA900926

Before C/M

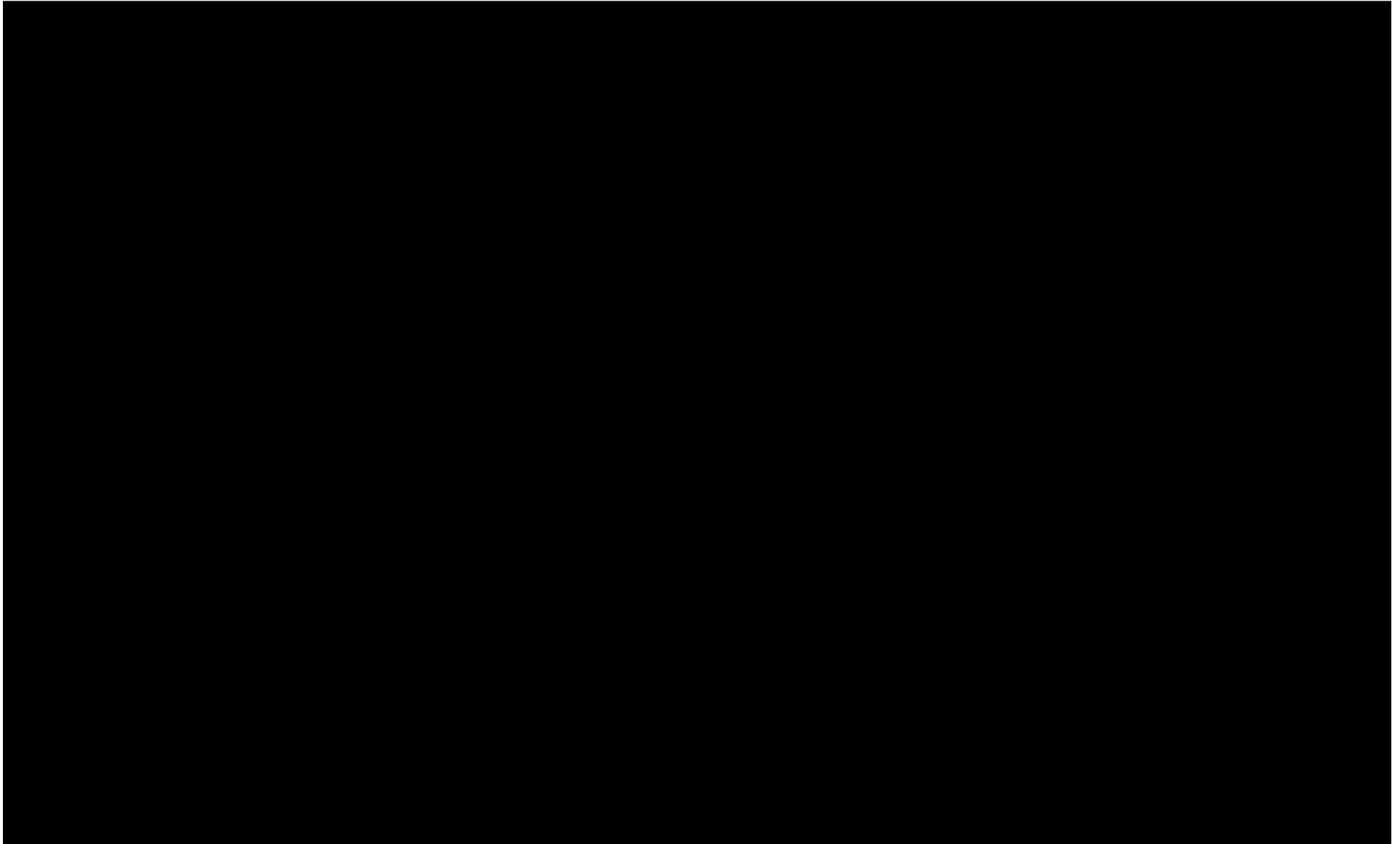


After C/M



Double spacer had been applied from 10M.

**[WARRANTY SITUATION]** **ENTIRE SLIDE BUSINESS CONFIDENTIAL INFORMATION**



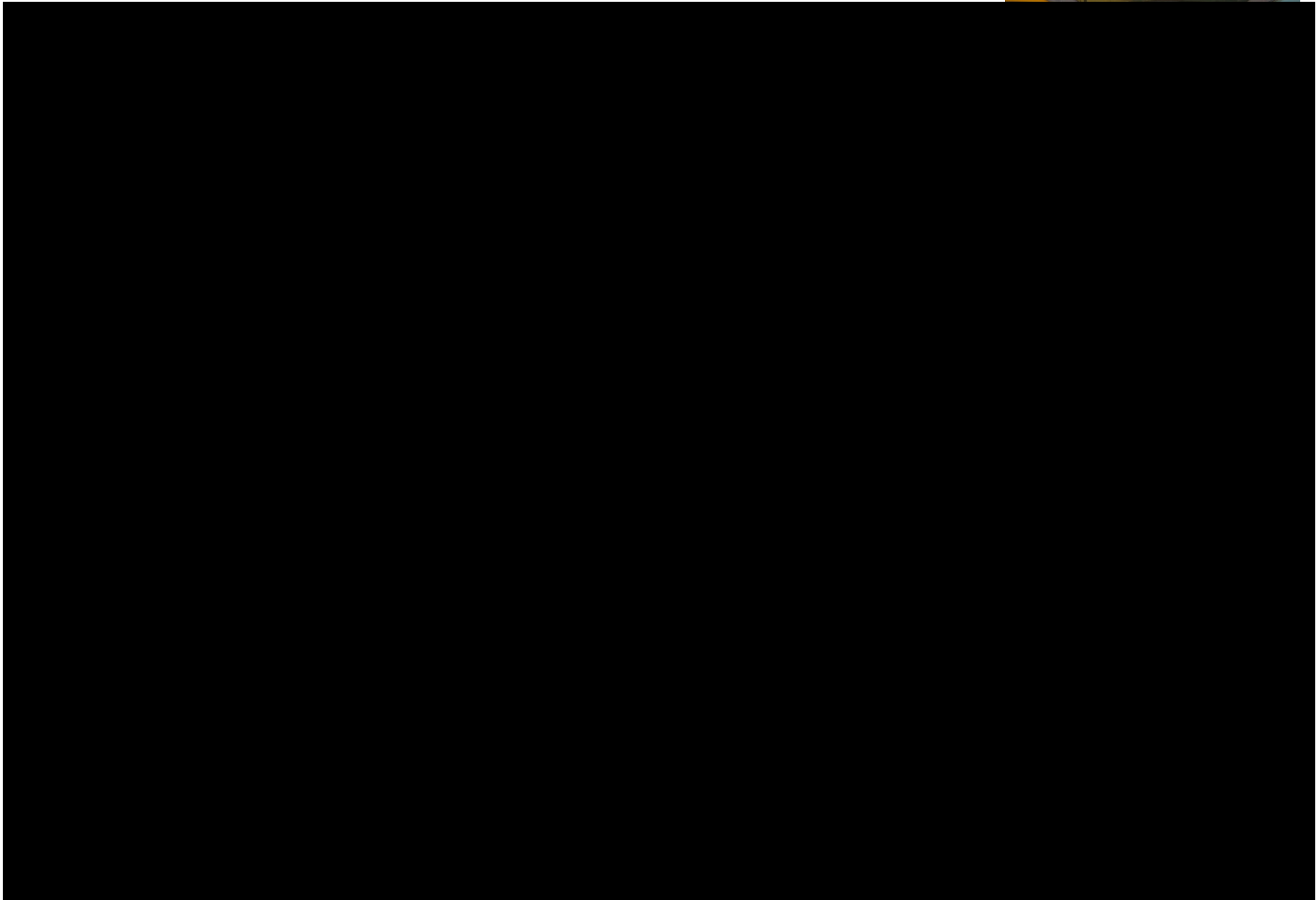
ENTIRE SLIDE BUSINESS CONFIDENTIAL INFORMATION



**SHJ STABILUS OPENSTAY COUNTERMEASURE**

**ENTIRE SLIDE BUSINESS CONFIDENTIAL INFORMATION**

QA / Exterior



# SHJ STABILUS OPENSTAY COUNTERMEASURE

## [NECESSARY PART CHANGES]

Honda Odyssey- Power and Manual

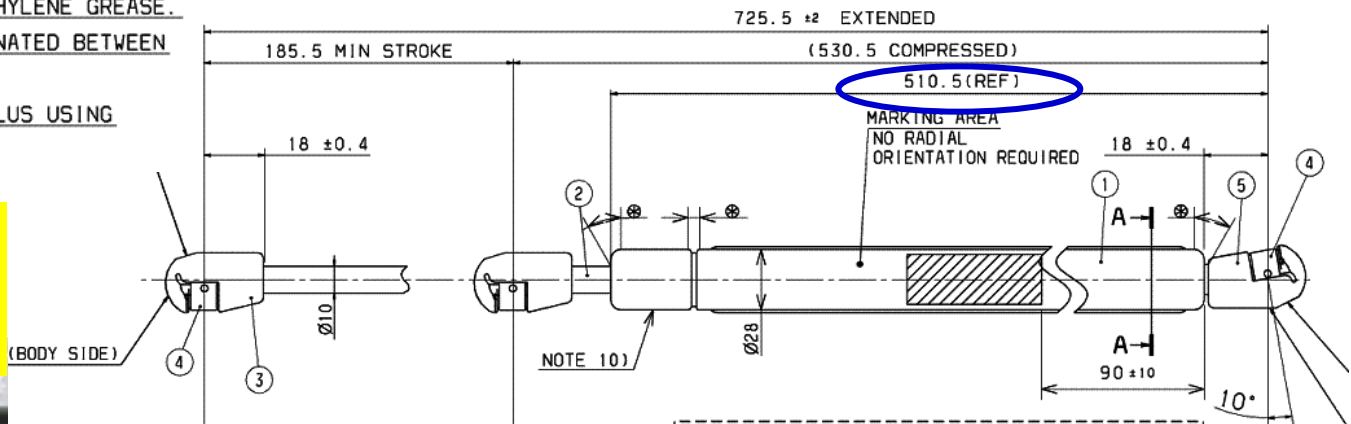
	Rod Length	Tube Length	Radial Groove Length	Seal Package Length	Oil Type to go with Alternative Seal (SKF)
Current Production TLN 8202ZB/ 8208ZI	266.0mm	492.0mm	36.0mm	32.6mm	10wt
Double Spacer TLN 019222/ 019284	273.0mm	492.6mm	64.6mm	61.0mm	60wt

- ROD LENGTH INCREASED BY 18mm
- TUBE LENGTH CHANGED BY 0.5mm
- SEAL PACKAGE LENGTH CHANGE BY 18.5mm
- OIL CHANGE

**ONLY OIL CHANGE AND TUBE CHANGE NEEDED ON DRAWING!  
ISSUE CRF.**

- 10.) OIL (3cc Ref) Stat. **WN20/4**
- 11.) GREASE; APPLY 0.01 TO 0.10g OF POLYETHYLENE GREASE.
- 12.) IDENTIFICATION METHOD SHALL BE COORDINATED BETWEEN SUPPLIER AND PLANT.
- 13.) NB: TO BE VERIFIED/APPROVED BY STABILUS USING PRODUCT PART TESTING.

**TUBE CRIMPING LOCATION IS ONLY VISIBLE DIFFERENCE**



- MI REQUIRED FOR ADVANCED CHANGE
- CRF AND DESIGN CHANGE REQUIRED
- SLIGHT VISIBLE DIFFERENCE BETWEEN CURRENT AND C/M PARTS

# SHJ STABILUS OPENSTAY COUNTERMEASURE

## [PATH FORWARD]

- QA RECOMMENDS APPLYING CHANGE TO SHJ
- QA ISSUED CRF Z4F081126001 TO HGT
- QA ISSUED MI TO APPLY CHANGE UNTIL DESIGN CHANGE IS RECEIVED (STABILUS SHIPPING C/M PARTS 1 MONTH AFTER RECEIVING MI, APPROX SEPT-END)
- QA TO CONTINUE TESTING COUNTERMEASURE FOR SZA



### Text Color Change

	Current	C/M
A210 (Manual)	Blue	Green
A710 (PTG)	White	Orange



PE11-034

HONDA

11/22/2011




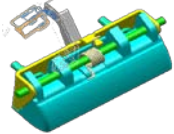
#Q12 PTG for ODY 20111017



# HONDA ODYSSEY tail gate falling verification





# HONDA ODYSSEY OPERATION MODE







User operation	Push driver's switch	Push keyless switch	Push GATE mounted switch	Open T/GATE by Outer handle
				
Close fully	Open Instrument panel Left of stg.wheel	Open	-	Manual opening
Open fully	Close Instrument panel Left of stg.wheel	Close	Close	-
During auto operation	The operation direction is reversed.	The operation direction is reversed.	The operation direction is reversed.	Tailgate switches To manual mode

**【HONDA ODYSSEY】** Driver's switch (auto opening and closing), keyless switch (auto opening and closing) and GATE mounted switch (auto closing) are operated automatically.  
Manual opening and closing is always possible.



# HONDA ODYSSEY normal mode

 : With motor assist

 : Without motor assist

	Full closed position	Half opened position	Full opened position
<p>OPEN</p> <div data-bbox="86 756 270 906" style="background-color: #ADD8E6; padding: 5px; display: inline-block;">OD1</div>			
	<p>Start :</p> <ul style="list-style-type: none"> <li>① Push driver's switch or keyless switch</li> <li>② Warning chime : 『Beep』 once</li> <li>③ Small light : Flash 3 times</li> <li>④ Tailgate closer : Release operation</li> <li>⑤ Motor assist starts</li> </ul>	<p>⑥ Motor assist stops at the specified position.</p>	<div data-bbox="1352 592 1845 778" style="border: 2px solid red; border-radius: 15px; padding: 10px; text-align: center;"> <p>Remaining open by gas damper reactive force (not motor)</p> </div>
<p>CLOSE</p>			
	<p>⑤ Final tailgate closer operates at the specified position.</p> <p>⑥ Motor assist stops at the specified position.</p>		<p>Start :</p> <ul style="list-style-type: none"> <li>① Push driver's switch or keyless switch or tailgate switch</li> <li>② Warning chime : 『Beep』 once</li> <li>③ Small light : Flash 3 times</li> <li>④ Motor assist starts</li> </ul>

# HONDA ODYSSEY fail safe mode

 : Without motor assist    
  : With motor assist



Full closed position

Motor assist stops

Detected defined amount falling within the specified time

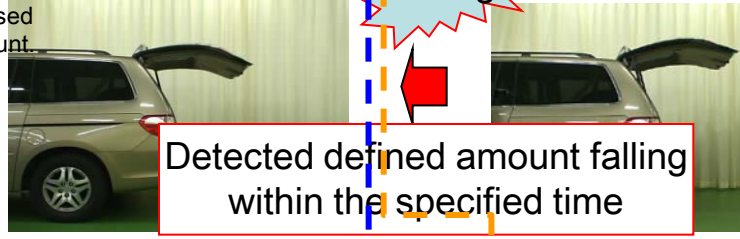
During operation of falling prevention system



Reconfirmation of abnormality



Tailgate Raised Defined amount.



Detected defined amount falling within the specified time



Tailgate Raised Defined amount.

Tailgate falling detected, tailgate raised by motor.

Motor assist stops

Detected falling and connected motor = Falling prevention system starts

Warning chime : 『BEEP』 Continued to full closed position => Different sounds as normal

Tailgate descends slowly



Full closed position



**Features of ODYSSEY POWER T/GATE Failsafe Mode**

- ① Obvious different from normal operation..
- ② System confirms strut weakness by process of opening and re-raising T/G before closing.
- ③ Warning chime for failure mode is different than the warning chime for normal operation..

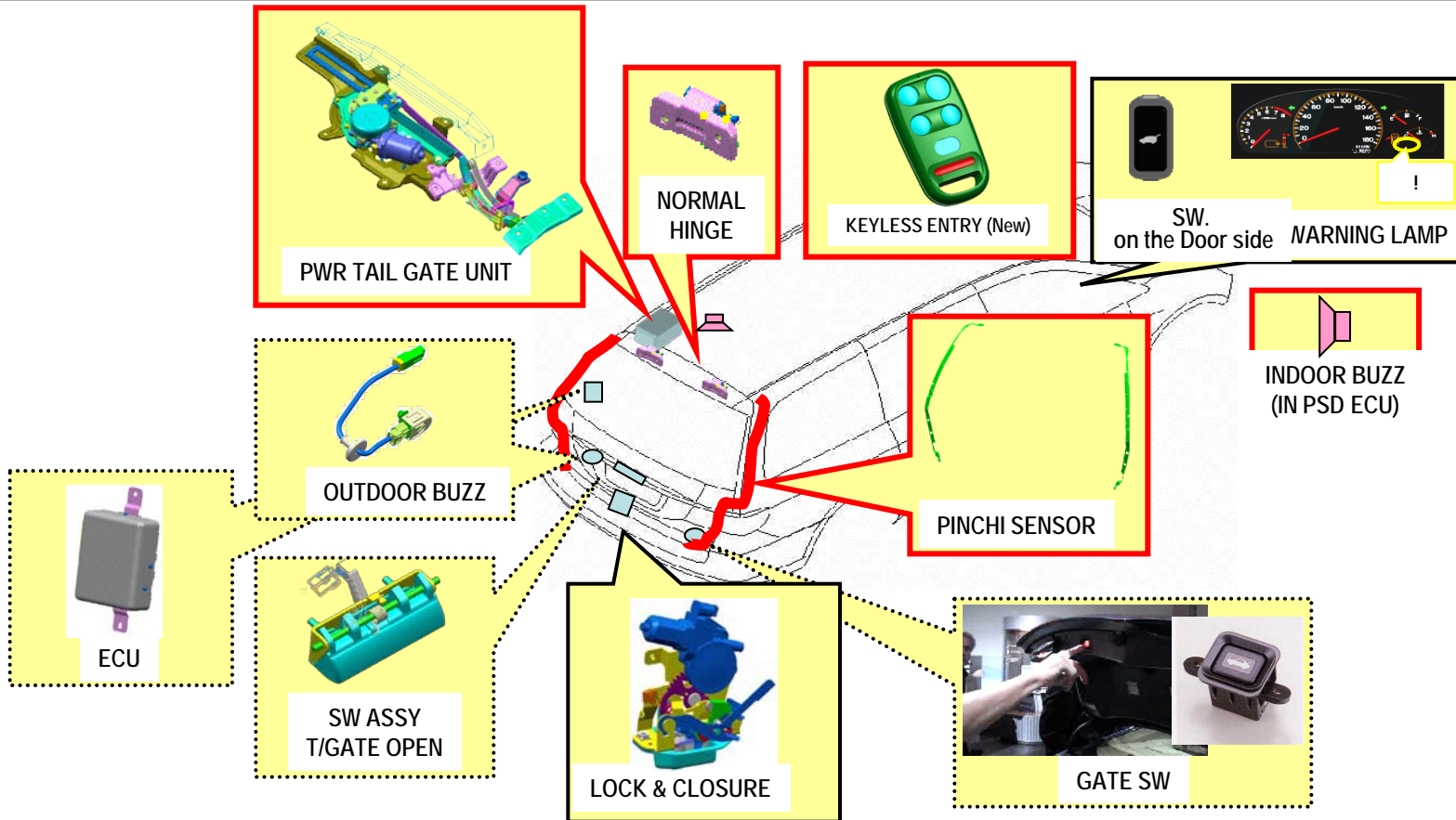
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#Q13 Drop detection

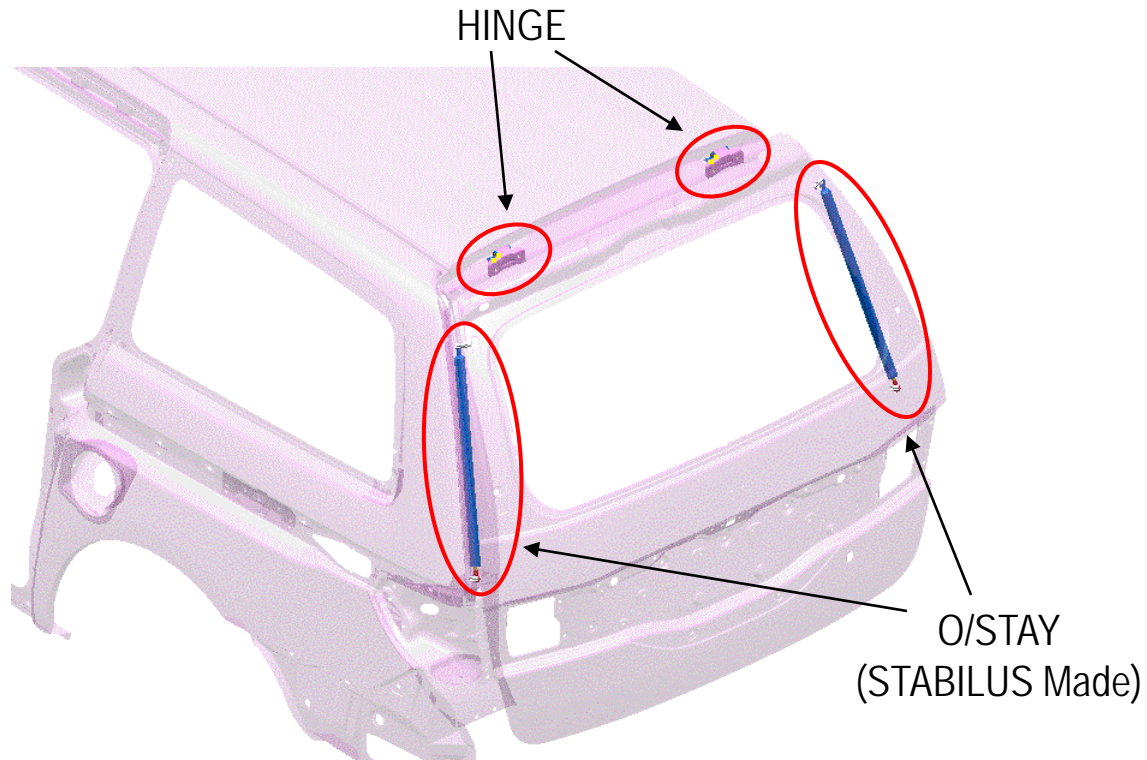
# PWR Tailgate Component Formation/Layout drawing



[Main Parts/Function]

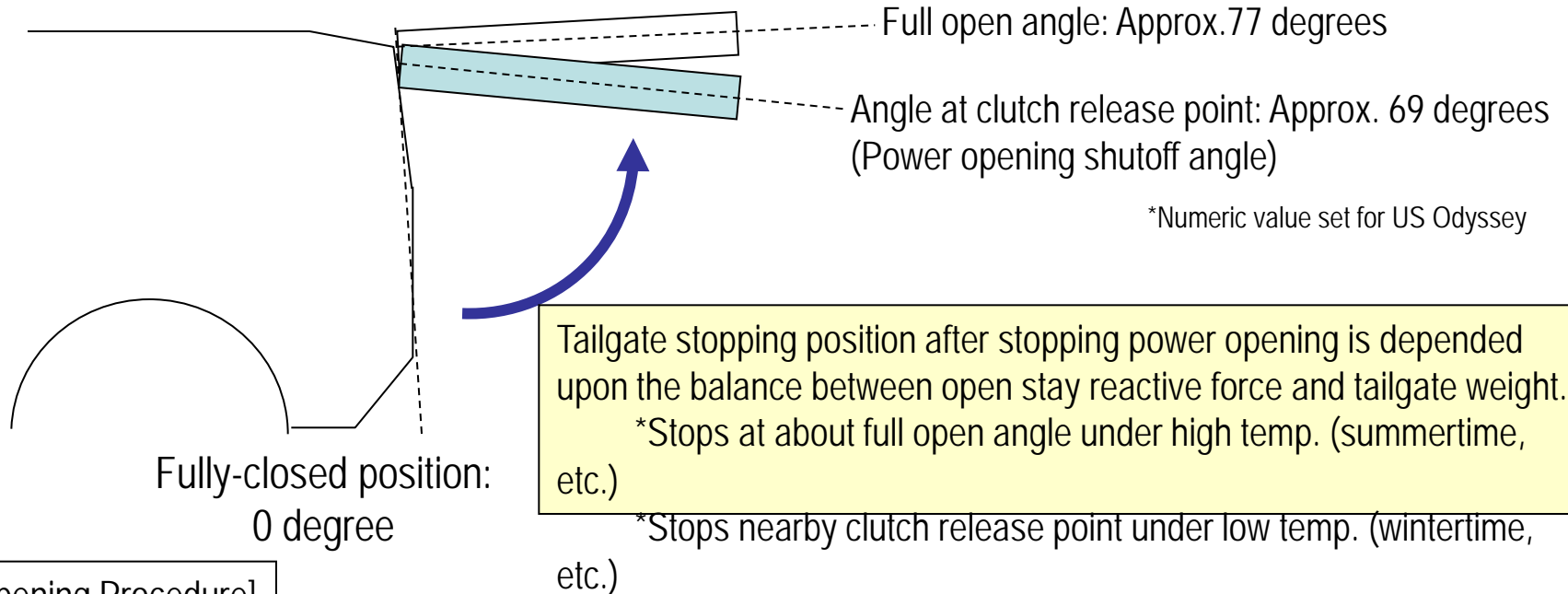
Part Name	Function
PWR TAILGATE UNIT	Unit that opens or closes tailgate itself (built-in electromagnetic clutch)
LOCK&CLOSURE	Unit that unlatches or Latches tailgate latch
BUZZ	Buzz when receiving power activation signal and unusual occurrences
PINCH SENSOR	Pinch detection sensor (pressure-sensitive type) when activating power closing
ECU	PWR tailgate system control

# US ODYSSEY: Open Stay/Hinge Layout



Open stay reactive force sustains tailgate when opening tailgate.  
(PWR tailgate system does not sustain tailgate)

# Opening/Tailgate Stop Position

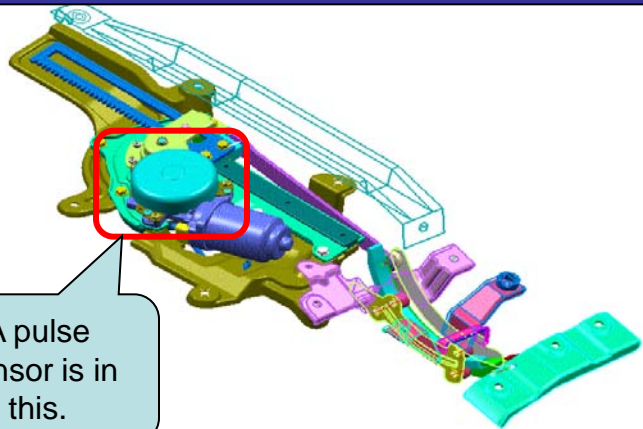


## [Opening Procedure]

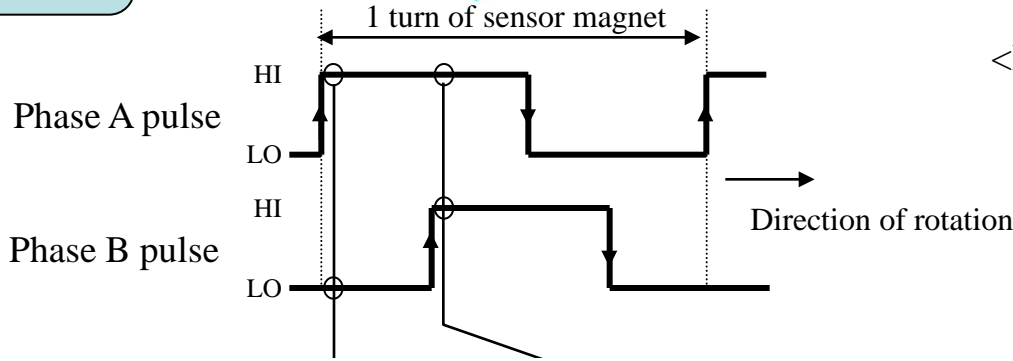
1. Activate Opening Device
2. Latch Releases by Lock & Closure (Unit)
3. Tailgate Opens by PWR Tailgate Unit  
(Clutch ON → Motor ON)
4. Opening Stops at Clutch Release Point  
(Clutch OFF → Motor OFF)



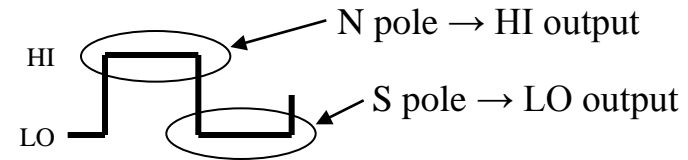
# ◆ How is the tailgate speed detected?



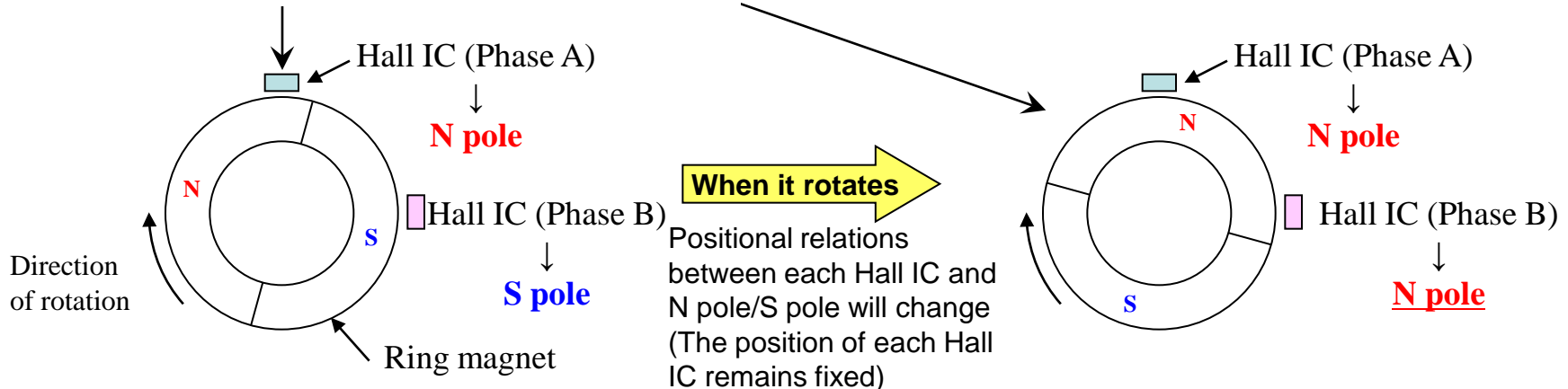
The ECU detects the speed by computing it from the pulse cycles of the pulse sensor contained in the drive unit. The pulse sensor is a ring magnet contained in the drive unit, which rotates (clockwise or counterclockwise) as interlocked with the (manual/power) tailgate opening/closing motion. Depending on its rotation (rotation of the magnet's N and S poles), magnetic force is detected and converted into voltage by the Hall IC.



<Positional relations between Hall IC and magnet>



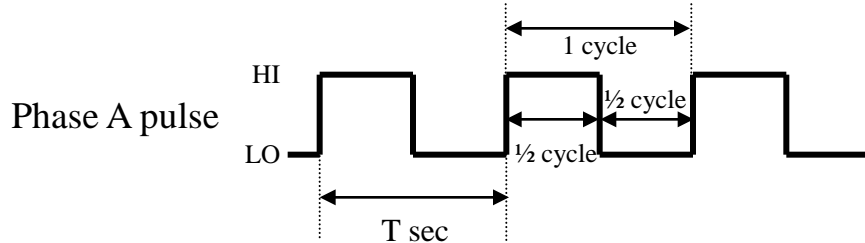
Positional relations between sensor magnet and Hall IC A/B



# ◆ How is the tailgate speed detected?

## Tailgate speed detection

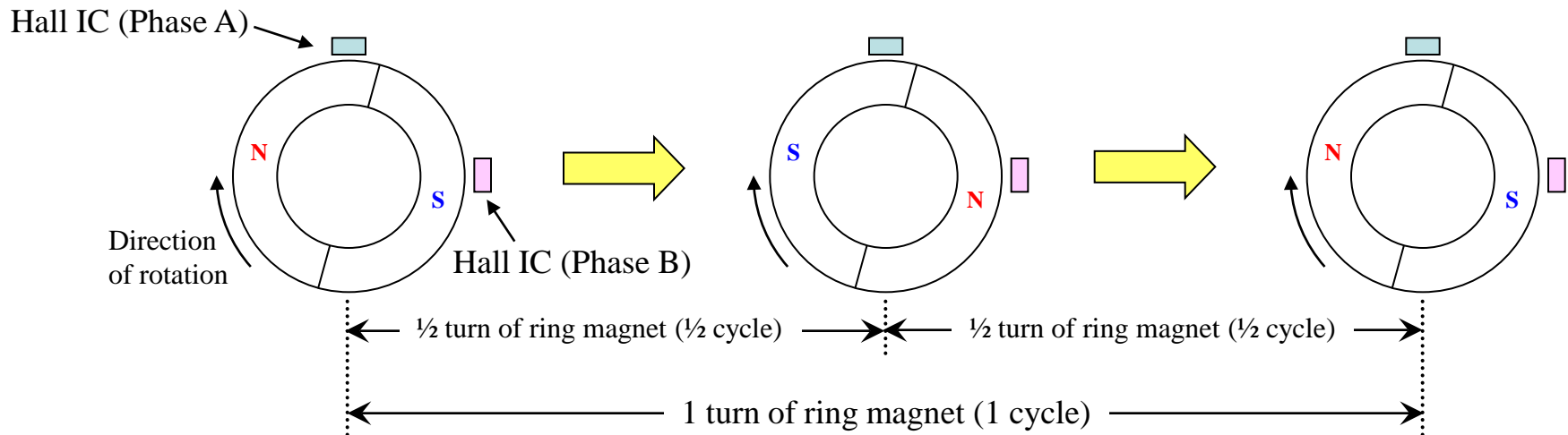
Pulse cycles are measures from which operating speed is computed.



By measuring the time (T) required for 1 cycle of phase A pulse (1 turn of sensor magnet), the speed V (mm/sec) can be computed. **(Speed = Distance / Time)**

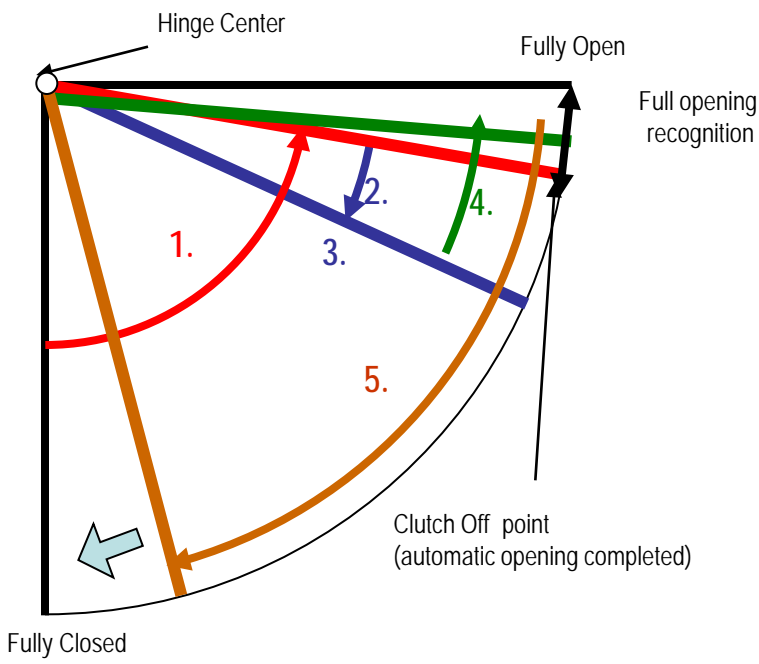
$$V = \frac{X}{T} \quad (\text{mm/sec})$$

Where, X is the amount of tailgate movement during 1 turn of ring magnet, which is a fixed value determinable by design data.



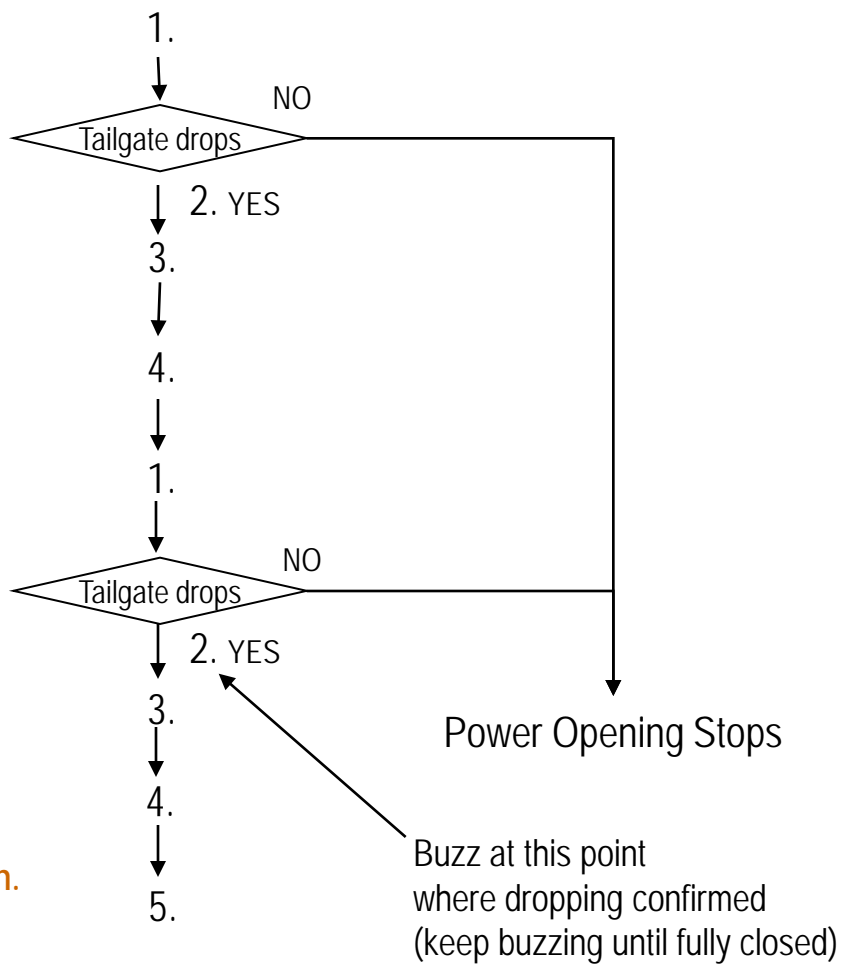
※According to the above example, 1-cycle speed is computed, but 1/2-cycle speed may be computed as well.

# Drop Detection Activation



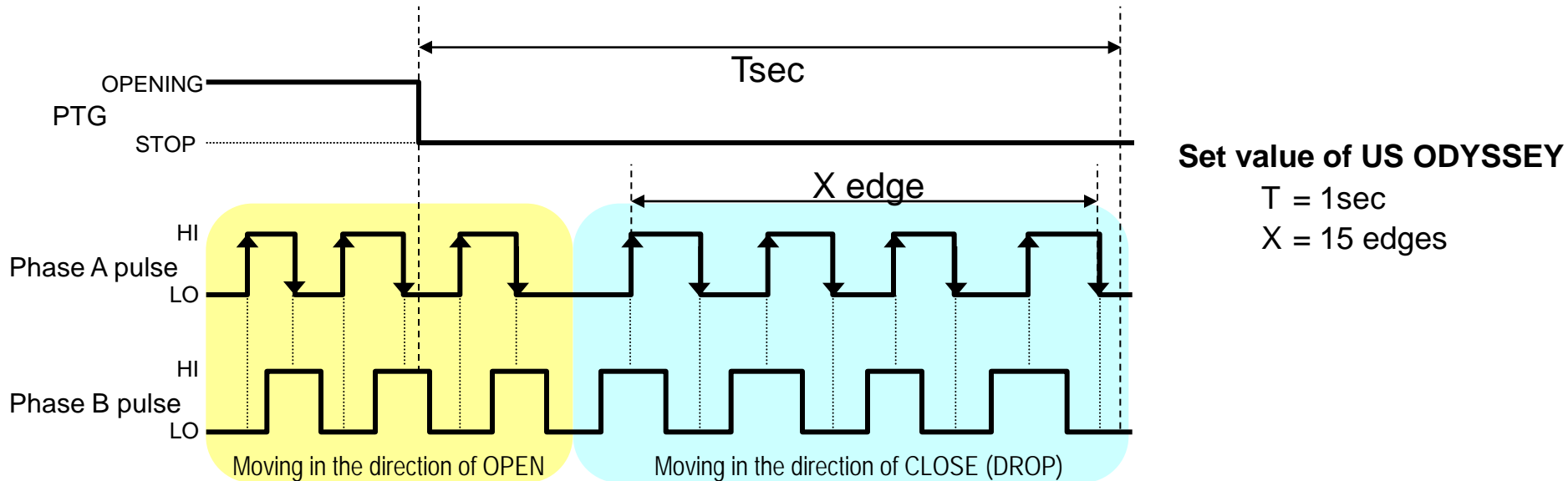
- 1. Power opening completed
- 2. Detects tailgate fall by its own weight
- 3. Prevent tailgate fall by reconnecting clutch
- 4. Power opening activation---Keep opening to the point where clutch releases or drop starts
- 5. Keep opening to the point where clutch releases or drop starts, then closing starts and stops at full open position.

## Drop detection procedure



# Drop Detection Mechanism

Drop of the PWR Tailgate is determined by detecting a drop of X edge within Tsec (Moving in the direction of CLOSE) from the stop of opening operation (clutch release).



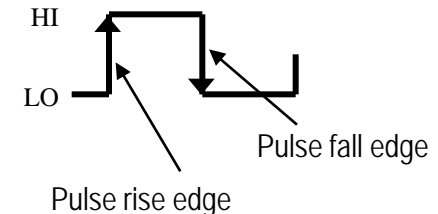
## ◇Opening direction determination

Phase B pulse indicating LO level when phase A pulse is at a rise edge,  
or Phase B pulse indicating HI level when phase A pulse is at a fall edge

## ◇Closing direction determination

Phase B pulse indicating HI level when phase A pulse is at a rise edge,  
or Phase B pulse indicating LO level when phase A pulse is at a fall edge

Edge: A phase where the HI changes into LO or LO changes into HI



## 【Supplemental information】 Honda's Sound and Optical Warning Systems

We would like to submit supplemental information on Honda's warning systems.

- ① When the gate is opened or closed automatically by operating diver's switch or keyless system (when receives operation command properly).
  - Sound warning... "Lengthy high-pitched tone" sounds for one second.
  - Optical warning... Position marker lamps flash three times, which is the same as the optical warning for the security system (lock).
- ② When the gate is closed by PTG SW (for close only) mounted on the tailgate (when receives operation command properly).
  - Sound warning... "Lengthy high-pitched tone" sounds for one second.
  - Optical warning... No warning (because the customer is operating the tailgate just under the gate).
- ③ When anti-drop system is working.
  - Sound warning... "Lengthy high-pitched tone" continuously sounds until the tailgate is closed."  
(until half-latch or full close, or until the system stops working).
  - Optical warning... No warning

There are other warning sounds when pinching is detected or vehicle is driven (or tried to be driven) with the tailgate open.

A buzzer mounted inside the bumper is used for sound warning for outside the vehicle (near the tailgate), and another buzzer contained in PSD ECU (which is mounted near the rear quarter glass on passenger side) is for inside the vehicle.

For ① and ②, only the buzzer for outside the vehicle sounds, but for others, both outside and inside buzzers sound.

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#Q17 Parts Demand

Q10  
 COMPONENT SALES HISTORY  
 AS OF 11/17/11

PART DESCRIPTION	SERVICE PART NO.	MODEL APPLICATION	PART RELEASE DATE	CALENDAR YEAR			
				2008	2009	2010	2011 as of 11/17/11
STAY, TAILGATE OPEN	74820-SHJ-A71	2008-2010 Odyssey	Oct. 15, 2007	193	2955	7581	8114

PART DEMAND HISTORY				
	2008	2009	2010	2011
January	-	-	335	488
February	-	-	359	447
March	-	-	523	598
April	-	-	655	722
May	-	-	571	989
June	-	-	1051	1162
July	-	-	774	1034
August	-	-	891	1079
September	-	-	726	732
October	-	-	650	586
November	-	362	571	277
December	-	430	475	0