### 11/04/19

#### 19-561 Chronology

## **1**. All principal events that were the basis for the determination that the defect related to motor vehicle safety.

Details about chronology of principal events are listed here below:

#### December 2016

Piaggio recorded some claims from the market about residual torque at front wheel during parking with gearbox in neutral. Piaggio claimed the defect with master cylinder supplier. A possible machining non-conformity of brake lever only was declared by supplier and resolved. According to supplier master cylinders produced from March 27, 2017 on (marking on component 7327) would be OK.

Piaggio Quality Inspectors checked components and lever machining process, confirming the supplier's statement about cut-off date. No further action was made by Piaggio on the field, as customers safety was not involved. Claims continued to be managed through warranty normal procedure.

### July 2018

Piaggio recorded from the market some cases of vehicles slowing down while running, due to progressive auto-activation of the front brake.

Following these events, Piaggio began to perform deeper investigations, finding that the main responsible of the defect was the pump body and not the lever, as declared by supplier till the date. In order to solve such functional problem for the ongoing vehicle production Piaggio activated in July a 100% selection of master cylinders before assembling them on vehicles. No action on the field due to lack of evidence of safety consequences, and claims continued to be managed through warranty normal procedure. The component is designed by the supplier and purchased by Piaggio as a blackbox, so Piaggio pushed the supplier for a drawing modification with increased minimum value of ineffective stroke.

#### June 2019

Piaggio recorded from the market the first two cases of accident due to self-braking event during normal running. Details:

Ref. no.	date	vehicle	Country	Claim - EVENT	Piaggio check result
					Piaggio technician traveled to Macedonia and
HDS					checked the front master cylinder, finding
9000046729	18/06/2019	DORSODURO 750	Macedonia	Accident with driver's injury	ineffective stroke missing at all (measured 0 mm)
HDS					
9000046205	11/06/2019	GUZZI MGX-21	Russia	Accident with driver's injury	Recall of part was not possible

Due to above two events, Piaggio activated in July 2019 a safety recall campaign regarding the master cylinder, although at that time the supplier had not yet confirmed the master cylinder problem.

# July - September 2019

Piaggio arranged meetings and calls with the supplier in order to clarify the issue and technical responsibility and made available several defective parts available. In September the supplier stated that he had been able to reproduce the problem with internal tests on defective samples, nevertheless has not agreed on responsibility.

# 2. A summary of all warranty claims, field or service reports,

Enclosed: summary of related warranty claims on Front Master Cylinder part numbers.

Relevance of each event is classified adding ranking 1-2-3 (1=accident; 2= clear feedback from the customer; 3= low evidence or not clear relation to the issue).

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Warranty no.	Relevance (*)	Part no.	Description	Vehicle Type	Production date	Selling date	Country	Mileage Km	Warranty date
not classified	1	887764	FRONT MASTER CYLINDER ABS	California	2/22/2017	6/16/2017	Russia	2303	6/11/2019
5919889	2	2B006115	FRONT MASTER CYLINDER ABS	DORSODURO 750	17/06/2016	28/06/2016	Italy	1860	6/17/2019
not classified	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	6/17/2016	6/28/2016	Italy	1850	6/17/2019
5921609	3	2B006115	FRONT MASTER CYLINDER ABS	SHIVER 750	07/04/2016	23/08/2016	France	11108	6/21/2019
5923015	2	2B006115	FRONT MASTER CYLINDER ABS	DORSODURO 900	13/06/2018	17/04/2019	Italy	2144	6/26/2019
5925688	3	2B006115	FRONT MASTER CYLINDER ABS	SHIVER 900	23/07/2018	26/04/2019	France	2918	7/3/2019
5926994	2	2B006115	FRONT MASTER CYLINDER ABS	SHIVER 900	09/04/2018	3/29/2019	Italy	1614	7/8/2019
5929519	3	887764	FRONT MASTER CYLINDER ABS	California	5/20/2018	2/22/2019	France	4390	7/15/2019
5938454	3	887764	FRONT MASTER CYLINDER ABS	California	09/09/2013	04/03/2015	Italy	100360	8/8/2019
5948378	3	2B006115	FRONT MASTER CYLINDER ABS	SHIVER 900	01/03/2018	24/04/2018	Italy	7911	9/10/2019
5952973	3	2B006115	FRONT MASTER CYLINDER ABS	SHIVER 900	03/04/2018	5/15/2018	Germany	3707	9/21/2019
5953729	3	2B006111	FRONT MASTER CYLINDER ABS	California	19/10/2016	09/11/2017	Italy	2600	9/24/2019
5960651	3	2B006115	FRONT MASTER CYLINDER ABS	SHIVER 900	17/07/2018	27/05/2019	Belgium	4030	10/11/2019
5961070	3	2B006111	FRONT MASTER CYLINDER ABS	California	07/07/2017	10/08/2019	USA	1032	10/12/2019
5797619	2	887764	FRONT MASTER CYLINDER ABS	California	26/10/2016	02/01/2017	Italy	9970	01/06/2018
5726353	3	887764	FRONT MASTER CYLINDER ABS	California	03/02/2017	#	USA	0	01/11/2017
5450203	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	15/05/2013	22/09/2014	UK	4864	03/02/2016
2873448	3	859781	FRONT MASTER CYLINDER ABS	SPORT GEAR 850	25/08/2008	13/03/2009	Germany	2922	03/11/2009
5292088	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	19/04/2013	16/02/2015	USA	134	04/03/2015
5561660	2	887764	FRONT MASTER CYLINDER ABS	California	19/05/2015	28/08/2015	France	3283	06/10/2016
5800178	2	887764	FRONT MASTER CYLINDER ABS	California	13/07/2016	18/08/2016	Germany	5360	08/06/2018
5855916	2	887764	FRONT MASTER CYLINDER ABS	California	31/01/2017	26/09/2017	France	2905	08/11/2018
5856045	3	887764	FRONT MASTER CYLINDER ABS	California	13/10/2017	5/14/2018	Czech Rep.	5184	08/11/2018
5504948	2	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	21/07/2015	24/03/2016	Italy	2150	09/06/2016
5689965	2	887764	FRONT MASTER CYLINDER ABS	California	18/07/2015	23/04/2017	USA	1154	09/08/2017
5690041	3	887764	FRONT MASTER CYLINDER ABS	California	07/02/2017	07/09/2017	USA	0	09/08/2017
5845400	3	887764	FRONT MASTER CYLINDER ABS	California	03/02/2017	22/06/2018	USA	2567	09/10/2018

5856246	3	887764	FRONT MASTER CYLINDER ABS	California	30/03/2018	25/04/2018	Czech Rep.	5670	09/11/2018
5823796	2	887764	FRONT MASTER CYLINDER ABS	California	29/11/2016	3/1/2017	Norway	6267	10/08/2018
5322538	2	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	05/06/2013	09/08/2013	Germany	10143	11/05/2015
5490851	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	09/05/2014	30/06/2014	Germany	2662	11/05/2016
5564099	3	859781	FRONT MASTER CYLINDER ABS	DORSODURO 750	15/05/2014	03/02/2015	France	11451	11/10/2016
5440737	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	18/06/2013	28/01/2014	Germany	13298	12/01/2016
5110008	2	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	31/03/2011	12/06/2012	Italy	5948	12/03/2014
5491530	2	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	10/04/2015	06/10/2015	Italy	1840	12/05/2016
5339329	3	887764	FRONT MASTER CYLINDER ABS	California	31/10/2012	27/06/2013	Germany	2261	12/06/2015
5813046	2	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	22/06/2016	29/07/2016	Germany	4395	12/07/2018
5691257	2	887764	FRONT MASTER CYLINDER ABS	California	28/10/2016	29/06/2017	Germany	3197	14/08/2017
5835858	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 900	01/06/2017	13/06/2017	Italy	4100	15/09/2018
5731960	3	887764	FRONT MASTER CYLINDER ABS	California	13/07/2016	20/11/2017	Sweden	0	15/11/2017
3481640	2	859781	FRONT MASTER CYLINDER ABS	SPORT GEAR 850	12/10/2010	01/04/2011	Australia	1059	16/02/2012
5891115	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	04/09/2014	12/09/2015	Germany	15850	18/03/2019
5640383	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	27/02/2014	01/04/2015	Austria	11700	19/04/2017
5721218	2	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	12/05/2014	18/11/2015	Austria	12455	19/10/2017
5721282	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	31/03/2016	22/04/2016	France	1703	19/10/2017
5859264	2	887764	FRONT MASTER CYLINDER ABS	California	29/07/2016	06/07/2018	USA	437	19/11/2018
5509604	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	29/02/2016	11/03/2016	Germany	2628	20/06/2016
5509537	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	06/05/2015	18/06/2015	Germany	4037	20/06/2016
5553206	3	859781	FRONT MASTER CYLINDER ABS	DORSODURO 750	29/09/2015	15/12/2015	Italy	800	20/09/2016
5707378	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	20/07/2016	22/09/2016	Italy	6500	20/09/2017
5733606	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	28/04/2015	30/06/2016	UK	2574	20/11/2017
5859503	3	887764	FRONT MASTER CYLINDER ABS	California	12/09/2016	30/05/2017	Italy	5723	20/11/2018
5805003	2	896385	FRONT MASTER CYLINDER ABS	DORSODURO 900	31/05/2017	16/06/2018	Germany	650	21/06/2018
5181428	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	23/04/2013	18/10/2013	Germany	5943	21/07/2014
5681834	3	859781	FRONT MASTER CYLINDER ABS	DORSODURO 750	18/04/2016	31/05/2017	Canada	524	21/07/2017
5838113	3	887764	FRONT MASTER CYLINDER ABS	California	13/02/2017	17/07/2018	Canada	3991	21/09/2018
5838580	2	887764	FRONT MASTER CYLINDER ABS	California	07/04/2017	20/06/2017	Canada	4428	21/09/2018
5875706	3	887764	FRONT MASTER CYLINDER ABS	California	24/05/2018	28/11/2018	Italy	5010	22/01/2019
5101611	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	24/04/2013	05/06/2013	Germany	2472	22/02/2014
5618221	2	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	04/04/2013	03/05/2016	USA	2114	22/02/2017
5511143	2	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	20/03/2014	21/03/2015	Germany	420	22/06/2016
5783719	2	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	28/04/2016	13/05/2016	Germany	7269	23/04/2018

5345258	3	887764	FRONT MASTER CYLINDER ABS	California	23/04/2015	11/04/2017	Italy	0	23/06/2015
5850444	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	19/04/2016	12/05/2016	Italy	16034	23/10/2018
3416339	3	859781	FRONT MASTER CYLINDER ABS	DORSODURO 750	01/07/2009	12/05/2011	Italy	2166	24/10/2011
5571384	2	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	26/02/2016	05/08/2016	Italy	565	26/10/2016
5710498	2	887764	FRONT MASTER CYLINDER ABS	California	12/09/2016	06/10/2016	Italy	14050	27/09/2017
5572241	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	27/04/2016	06/10/2016	France	15	27/10/2016
5316673	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	11/04/2013	06/06/2013	Germany	8266	28/04/2015
5277732	2	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	26/02/2013	27/04/2013	France	2250	29/01/2015
5696415	2	859781	FRONT MASTER CYLINDER ABS	DORSODURO 750	21/06/2016	01/09/2016	Germany	2921	29/08/2017
5796905	2	887764	FRONT MASTER CYLINDER ABS	California	07/07/2015	13/05/2016	USA	2846	30/05/2018
5037716	3	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	22/04/2013	03/07/2013	Italy	1220	30/07/2013
5819429	2	896385	FRONT MASTER CYLINDER ABS	DORSODURO 900	14/06/2017	13/07/2017	Germany	1228	30/07/2018
5542413	2	887764	FRONT MASTER CYLINDER ABS	California	18/07/2015	25/04/2016	USA	1137	30/08/2016
not classified	2	887764	FRONT MASTER CYLINDER ABS	California	10/28/2016	3/31/2017	Swiss	9990	
not classified	1	896385	FRONT MASTER CYLINDER ABS	DORSODURO 750	7/10/2015	10/15/2015	Macedonia	8016	
not classified	2	859781	FRONT MASTER CYLINDER ABS	DORSODURO 750	2/25/2016	np	Palestina	9850	
not classified	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	2/27/2016	3/26/2016	Germany	1872	
not classified	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 750	7/12/2016	9/27/2016	Italy	1500	
not classified	3	896385	FRONT MASTER CYLINDER ABS	SHIVER 900	5/31/2017	6/21/2017	Italy	8900	
not classified	2	896385	FRONT MASTER CYLINDER ABS	SHIVER 900	8/3/2017	4/4/2018	Italy	1613	

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Relevance 1	accident
Relevance 2	clear feedback from the dealer
Relevance 3	low evidence or not clear relation to the issue

**3.** Other information (such as numbers of deaths and/or injuries), with their dates of receipt. Only 2 cases of injury were recorded - see above list.