

**Special  
edition**

Thatcham  
**research news**

# ***Waking up to whiplash***

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## Manufacturers listening to Thatcham and improving safety

Whiplash, for many years the forgotten injury, is now beginning to take centre stage with vehicle manufacturers concerned about safety. The results from the 2007 Model Year show that many volume manufacturers are finally taking the most common injury seen in motor vehicle crashes seriously and are re-designing their car seats to improve occupant safety. 2007 sees the best results yet, with 80% of new European derived seats achieving a 'GOOD' or 'ACCEPTABLE' score, meaning more necks are protected than ever before.

## Most Improved Seat in 2007

Whilst many manufacturers are making steady improvements to their new seats, Honda have leap-frogged the opposition to produce a new cost effective design that performs to a very high standard. Previous generations of Honda Civic and CR-V earned a 'POOR' rating during our tests, but the latest generation has gone straight to the top of the class earning a 'GOOD' rating. The new Honda seats fitted to the

new UK produced Civic and CR-V achieve performance ratings that match class-leading Volvo and Saab designs. Honda have managed to achieve this good performance through the use of a fast-activating, reactive head restraint, good geometry, and carefully managing the crash energy, in order to reduce the risk of injury.

## 2007 Model Year

Since 2004, Thatcham has tested the majority of new vehicle seats for their ability to protect the occupant from whiplash injuries. Since then, the Research Centre has rated around 250 new vehicle seats and has tested hundreds more.

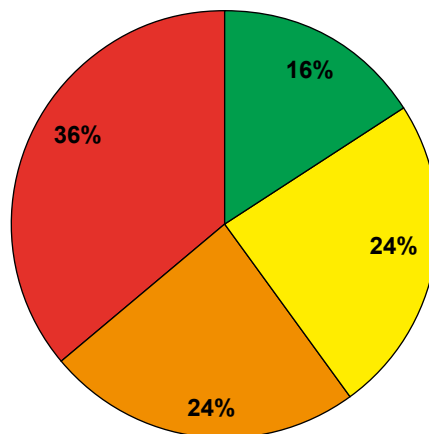
Three years ago, the 2005 Model Year testing saw only 16% of seats achieving a 'GOOD' score and a miserable 36% rated as 'POOR'. The 2007 Model Year testing sees manufacturers from around the globe now listening to Thatcham and introducing new seat designs that can protect their occupants from the debilitating and painful injuries associated with whiplash. Now almost 30% of all new seats are rated as 'GOOD'. Only 20% are rated as 'POOR', and these

are mostly older designs due for replacement.

Saab and Volvo continue to lead the way in whiplash safety with 'GOOD' rated seats in each and every new model on sale. However, many other manufacturers such as Ford and Renault are now joining them and introducing new seats with effective anti-whiplash technology. This year, Audi introduced an innovative anti-whiplash seat that scores well in our tests but has no costly to repair anti-whiplash mechanism. The seat features effectively designed foams that absorb the energy of a rear end crash and support the occupant's head and neck to prevent injury. And this seat is not just available in its high end vehicles, Audi has fitted this new seat type to its A3, A4, A6 and very latest A5 models for 2007.



Model year 2005



Good



Acceptable



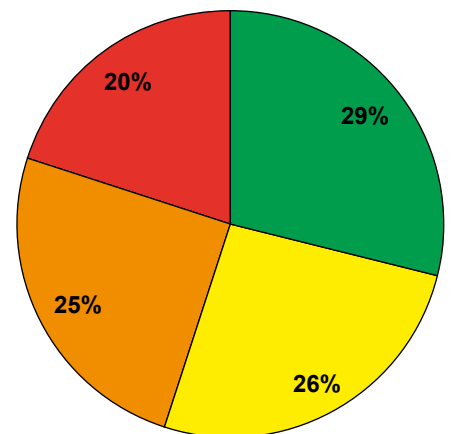
Marginal



Poor



Model year 2007



However, some manufacturers are still not taking whiplash seriously enough and are concentrating instead on reducing costs by producing seats that offer poor protection and score badly. Some of these poor seats come surprisingly from premium brands. In contrast, there are many manufacturers, who are dedicating their design capacity to produce cost effective seats that offer 'GOOD' whiplash protection, enabling the public to buy whiplash protection at all cost points.

Thatcham anticipates that the future will herald further innovative anti-whiplash seats that will lower the risk of whiplash as a direct result of the continued pressure from Thatcham and the British insurers.

## The Thatcham Whiplash Test

The whiplash test used by Thatcham was developed with our international insurance research partners and is now used and respected throughout the world. The test recreates a typical 10 mph crash on a special test machine – the sort of shunt where whiplash injuries commonly occur and features the unique BioRID whiplash dummy, especially created to emulate the movement of a human during a rear crash. The test assesses the forces endured by the car's occupants during the crash and measures the time until the head and neck are supported. The best seats have large head restraints that can support the occupant's head and neck very early and can mitigate the force of the crash – helping to prevent injury. Many of the best performing seats have anti-whiplash devices that can absorb the forces of the crash or move the head restraint automatically during the crash to support the head early

to help prevent injury. The test measures the size of the head restraint and how close it would be to a typical driver. It also rates

the dynamic performance of the seat during the crash test and combines these two assessments into one final, overall rating.

### Overall Rating

<b>Good</b>	A seat that offers good protection for most sizes of occupant – may be fitted with specific anti-whiplash protection.
<b>Acceptable</b>	A seat that offers reasonable protection for small to average sized drivers.
<b>Marginal</b>	A seat that offers some protection for small to average occupants.
<b>Poor</b>	A seat that offers little protection from whiplash-type injuries.
<b>Refused Supply</b>	Manufacturer refused to supply seats or participate in testing. It may be assumed that these seats would offer insufficient protection.

'NEW' indicates a new version of the vehicle available in this Model Year, where the old style vehicle of the same name is still available.

### Protection

<b>RHR</b>	<b>Reactive Head Restraint:</b> A head restraint that automatically moves up and forward during the crash, actuated by the weight of the occupant in the seat. (Example: Saab)
<b>PAHR</b>	<b>Pro-Active Head Restraint:</b> A head restraint that automatically moves up and forward at the start of the crash, actuated by crash sensors on the bumper or within the car. (Example: Mercedes-Benz C & E Class)
<b>RAS</b>	<b>Reactive Seat:</b> An entire seat and head restraint that absorbs the energy of a rear end crash. (Example: Volvo WHIPS)
<b>PAS</b>	<b>Passive Seat:</b> A seat that uses passive foam technology to absorb the energy of the crash and allows the occupant to engage the head restraint without neck distortion. (Example: Audi A4 backguard)
<b>NO CAPTION</b>	A traditional fixed or adjustable head restraint that has no specific anti-whiplash technology.

# Seat rating - the results

**Matthew Avery,  
Research Manager - Crash**

These ratings only allow the comparative assessment of a seat's ability to protect its occupant in a typical crash. They cannot be used as a guide to whether a particular injury is more or less likely, since we still do not know enough about

the mechanisms of whiplash injury to state this confidently.

It is important to remember that all occupants must adjust their head restraints correctly whether they have a 'POOR' or 'GOOD'

rated seat. No head restraint can offer full protection if it is incorrectly adjusted. The ideal adjustment is as high as the top of the head, and as close to the back of the head as possible – touching is best.

Make	Current Model	Anti-Whiplash System	Seat Description	Overall Rating
Alfa Romeo	147		Standard seat, cloth, 4 way, manual	Poor
Alfa Romeo	159	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Alfa Romeo	Brera	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Alfa Romeo	Spider	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Audi	A3	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Acceptable
Audi	A3 (Market introduction May 2007)	Passive Seat	Standard seat, cloth, 4 way, manual	Good
Audi	S3	Passive Seat	Sport seat, leather, 8 way, electric	Good
Audi	A4 (November 2006 on)	Passive Seat	Standard seat, cloth, 4 way, manual	Good
Audi	S4 (Up to November 2006)	Reactive Head Restraint	Sport seat, leather, 10 way, electric	Acceptable
Audi	S4 (November 2006 on)	Passive Seat	Sport seat, leather, 8 way, electric	Good
Audi	A5	Passive Seat	Standard seat, cloth, 4 way, manual, fixed head restraint	Good
Audi	A6 (Up to November 2006)	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Acceptable
Audi	A6 (November 2006 on)	Passive Seat	Standard seat, cloth, 4 way, manual	Good
Audi	S6	Passive Seat	Sport seat, leather, 8 way, electric, fixed head restraint	Good
Audi	TT Coupe	Passive Seat	Sport seat, leather & cloth, 4 way, manual, fixed head restraint	Acceptable
Audi	TT Roadster	Passive Seat	Sport seat, leather & cloth, 4 way, manual, fixed head restraint	Acceptable
Audi	Q7	Passive Seat	Standard seat, cloth, 4 way, manual	Acceptable
BMW	1-Series		Standard seat, cloth, 4 way, manual	Marginal
BMW	3-Series		Standard seat, cloth, 4 way, manual	Poor
BMW	3-Series Coupe			Refused Supply
BMW	3-Series Convertible			Refused Supply
BMW	5-Series		Standard seat, cloth, 6 way, manual	Poor
BMW	7-Series	Pro-Active Head Restraint	Comfort seat, leather, 6 way, electric	Acceptable
BMW	X3		Standard seat, leather, 4 way, manual	Poor
BMW	X5		Awaiting supply	Awaiting Supply
Cadillac	BLS	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Cadillac	CTS		Standard seat, leather, 4 way, electric	Poor
Chevrolet	Matiz		Standard seat, cloth, 2 way, manual	Marginal
Chevrolet	Kalos		Standard seat, cloth, 2 way, manual	Poor
Chevrolet	Lacetti		Standard seat, cloth, 2 way, manual	Marginal
Chevrolet	Tacuma		Standard seat, cloth, 6 way, manual	Poor
Chrysler	300C		Standard seat, leather, 8 way, electric	Acceptable
Chrysler	PT Cruiser		Standard seat, leather, 4 way, manual & electric	Poor
Chrysler	Voyager / Grand Voyager		Standard seat, cloth, 2 way, manual	Acceptable
Citroen	C1		Standard seat, cloth, 2 way, fixed head restraint	Marginal

Make	Current Model	Anti-Whiplash System	Seat Description	Overall Rating
Citroen	C2		Standard seat, cloth, 4 way, manual	Poor
Citroen	C3		Standard seat, cloth, 4 way, manual	Acceptable
Citroen	C4		Standard seat, cloth, 4 way, manual	Acceptable
Citroen	C4 VTR / VTS		Sport seat, cloth, 4 way, manual	Poor
Citroen	C4 Picasso		Standard seat, cloth, 4 way, manual	Marginal
Citroen	Xsara Picasso		Standard seat, cloth, 4 way, manual	Acceptable
Citroen	C5		Standard seat, cloth, 4 way, manual	Marginal
Citroen	C6	Reactive Head Restraint	Comfort seat, cloth, 6 way, electric	Acceptable
Citroen	C-Crosser		Standard seat, cloth, 4 way, manual	Good
Daihatsu	Charade		Standard seat, cloth, 2 way, manual	Good
Daihatsu	Sirion		Standard seat, cloth, 4 way, manual	Acceptable
Daihatsu	Terios		Standard seat, cloth, 4 way, manual	Good
Dodge	Caliber		Standard seat, cloth, 2 way, manual	Marginal
FIAT	Panda		Standard seat, cloth, 2 way, manual	Poor
FIAT	Grande Punto		Standard seat, cloth, 4 way, manual	Marginal
FIAT	Idea		Standard seat, cloth, 4 way, manual	Marginal
FIAT	Stilo		Standard seat, cloth, 4 way, manual	Poor
FIAT	Bravo	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Acceptable
FIAT	Croma	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Marginal
FIAT	Sedici		Awaiting supply	Awaiting Supply
FIAT	Doblo		Standard seat, cloth, 4 way, manual	Poor
FIAT	Multipla		Standard seat, cloth, 2 way, manual	Poor
Ford	Ka		Standard seat, cloth, 2 way, manual	Poor
Ford	Fiesta		Standard seat, cloth, 4 way, manual	Acceptable
Ford	Fiesta ST		Sport seat, cloth, 4 way, manual	Poor
Ford	Fusion		Standard seat, cloth, 4 way, manual	Marginal
Ford	Focus		Standard seat, cloth, 4 way, manual	Good
Ford	C-Max		Standard seat, cloth, 4 way, manual	Good
Ford	Mondeo	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Ford	Mondeo (new)		Awaiting supply	Awaiting Supply
Ford	S-Max	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Ford	Galaxy	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Honda	Jazz		Standard seat, cloth, 4 way, manual	Poor
Honda	Civic	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Honda	Civic Type R		Awaiting supply, fixed head restraint	Awaiting Supply
Honda	Accord		Standard seat, cloth, 4 way, manual	Poor
Honda	Legend		Awaiting supply	Awaiting Supply
Honda	CR-V	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Honda	FR-V		Awaiting supply	Awaiting Supply
Hyundai	Getz		Awaiting supply	Awaiting Supply
Hyundai	I30		Awaiting supply	Awaiting Supply
Hyundai	Sonata	Reactive Head Restraint	Standard seat, cloth, 8 way, manual	Good
Hyundai	Tucson		Standard seat, cloth, 6 way, manual	Marginal
Hyundai	Santa Fe	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Jaguar	X-Type		Standard seat, leather, 6 way, electric	Poor
Jaguar	X-Type Sport		Standard seat, leather, 6 way, electric	Poor
Jaguar	S-Type	Re-Active Seat	Standard seat, leather, 6 way, electric	Good
Jaguar	S-Type Sport	Re-Active Seat	Standard seat, leather, 6 way, electric	Good
Jaguar	XJ	Re-Active Seat	Standard seat, leather, 6 way, electric	Marginal
Jaguar	XK		Awaiting supply	Awaiting Supply
Jeep	Grand Cherokee	Reactive Head Restraint	Standard seat, leather, 6 way, electric	Good
Kia	Picanto		Standard seat, cloth, 2 way, manual	Marginal
Kia	Rio		Standard seat, cloth, 2 way, manual	Poor
Kia	Cee'd		Awaiting supply	Awaiting Supply
Kia	Sedona	Reactive Head Restraint	Standard seat, cloth, 2 way, manual	Good

Make	Current Model	Anti-Whiplash System	Seat Description	Overall Rating
Kia	Sportage		Standard seat, cloth, 6 way, manual	Poor
Land Rover	Freelander II		Standard seat, cloth, 2 way, manual	Marginal
Land Rover	Discovery III		Standard seat, leather, 6 way, electric	Acceptable
Land Rover	Range Rover Sport		Standard seat, leather, 4 way, electric	Acceptable
Land Rover	Range Rover		Awaiting supply	Awaiting Supply
Lexus	IS	Passive Seat	Sport seat, cloth, 6 way, manual	Marginal
Lexus	GS	Passive Seat	Sport seat, cloth, 6 way, electric	Poor
Lexus	LS 460	Pro-Active Head Restraint	Awaiting supply	Awaiting Supply
Lexus	RX 300	Passive Seat	Standard seat, cloth, 6 way, electric	Marginal
Mazda	2		Standard seat, cloth, 4 way, manual	Poor
Mazda	2 (new)		Awaiting supply	Awaiting Supply
Mazda	3		Standard seat, cloth, 4 way, manual	Marginal
Mazda	5		Standard seat, cloth, 4 way, manual	Marginal
Mazda	6		Standard seat, cloth, 4 way, manual	Marginal
Mazda	MX-5		Sport seat, cloth, 2 way, manual, fixed head restraint	Marginal
Mercedes	A-Class	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Acceptable
Mercedes	B-Class	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Mercedes	C-Class	Pro-Active Head Restraint	Standard seat, cloth, 6 way, manual/electric	Acceptable
Mercedes	E-Class	Pro-Active Head Restraint	Standard seat, leather, 6 way, electric	Good
Mercedes	SLK		Awaiting supply	Awaiting Supply
Mercedes	R-Class	Pro-Active Head Restraint	Standard seat, leather, 8 way, electric	Good
Mercedes	M-Class	Pro-Active Head Restraint	Standard seat, leather, 8 way, electric	Good
Mercedes	GL-Class	Pro-Active Head Restraint	Standard seat, leather, 8 way, electric	Good
MINI	Mini convertible		Standard seat, cloth, 4 way, manual	Acceptable
MINI	Mini (new)		Standard seat, cloth, 4 way, manual	Acceptable
Mitsubishi	Colt		Standard seat, cloth, 2 way, manual	Poor
Mitsubishi	Lancer		Standard seat, cloth, 2 way, manual	Marginal
Mitsubishi	Outlander		Standard seat, cloth, 4 way, manual	Good
Mitsubishi	Shogun		Standard seat, leather, 6 way, electric	Poor
Nissan	Micra		Standard seat, cloth, 4 way, manual	Acceptable
Nissan	Micra CC		Standard seat, cloth, 4 way, manual	Acceptable
Nissan	Note	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Marginal
Nissan	Qashqai	Reactive Head Restraint	Standard seat, cloth, 2 way, manual	Good
Nissan	X-Trail		Standard seat, cloth, 4 way, manual	Marginal
Nissan	Murano	Reactive Head Restraint	Standard seat, leather, 2 way, manual	Marginal
Nissan	Pathfinder	Reactive Head Restraint	Standard seat, cloth, 4 way, electric	Marginal
Peugeot	107		Standard seat, cloth, 2 way, fixed head restraint	Marginal
Peugeot	1007		Standard seat, cloth, 4 way, manual	Poor
Peugeot	206		Standard seat, cloth, 4 way, manual	Marginal
Peugeot	207		Standard seat, cloth, 4 way, manual	Marginal
Peugeot	307		Standard seat, cloth, 4 way, manual	Good
Peugeot	407		Standard seat, cloth, 4 way, manual	Acceptable
Peugeot	4007		Standard seat, cloth, 4 way, manual	Good
Proton	Gen 2		Sport seat, cloth, 2 way, manual	Poor
Proton	Satria		Standard seat, cloth, 2 way, manual	Poor
Renault	Twingo		Awaiting supply	Awaiting Supply
Renault	Clio Campus		Standard seat, cloth, 2 way, manual	Poor
Renault	Clio		Standard seat, cloth, 4 way, manual	Good
Renault	Modus		Standard seat, cloth, 4 way, manual	Good
Renault	Megane		Standard seat, cloth, 4 way, manual	Acceptable
Renault	Megane CC		Standard seat, cloth, 4 way, manual	Acceptable
Renault	Laguna		Standard seat, cloth, 4 way, manual	Good
Renault	Scenic		Standard seat, cloth, 4 way, manual	Marginal
Renault	Espace		Standard seat, cloth, 6 way, manual	Acceptable
SAAB	9-3	Reactive Head Restraint	Standard seat, leather, 4 way, manual	Good

Make	Current Model	Anti-Whiplash System	Seat Description	Overall Rating
SAAB	9-3	Reactive Head Restraint	Standard seat, leather, 6 way, manual/electric	Good
SAAB	9-5	Reactive Head Restraint	Standard seat, leather, 4 way, manual	Good
SEAT	Ibiza		Sport seat, cloth, 4 way, manual	Poor
SEAT	Leon	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Acceptable
SEAT	Leon	Reactive Head Restraint	Sport seat, cloth, 4 way, manual	Acceptable
SEAT	Leon		Standard seat, cloth, 4 way, manual	Acceptable
SEAT	Leon		Sport seat, cloth, 4 way, manual	Acceptable
SEAT	Altea	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
SEAT	Altea		Standard seat, cloth, 4 way, manual	Marginal
SEAT	Toledo	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
SEAT	Toledo		Standard seat, cloth, 4 way, manual	Marginal
Skoda	Fabia (new)		Standard seat, cloth, 2 way, manual	Acceptable
Skoda	Fabia VRS		Sport seat, cloth, 4 way, manual	Poor
Skoda	Roomster		Standard seat, cloth, 2 way, manual	Acceptable
Skoda	Octavia		Standard seat, cloth, 4 way, manual	Marginal
Skoda	Superb		Standard seat, cloth, 4 way, manual	Poor
Smart	Fortwo		Standard seat, cloth, 2 way, manual	Acceptable
Subaru	Impreza	Reactive Head Restraint	Sport seat, cloth, 2 way, manual	Marginal
Subaru	Legacy		Awaiting supply	Awaiting Supply
Subaru	Legacy Outback	Reactive Head Restraint	Sport seat, cloth, 4 way, manual	Acceptable
Subaru	Forester	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Good
Subaru	B9 Tribeca	Reactive Head Restraint	Standard seat, leather, 2 way, electric	Good
Suzuki	Swift		Standard seat, cloth, 2 way, manual	Acceptable
Suzuki	SX4		Standard seat, cloth, 2 way, manual	Marginal
Suzuki	Grand Vitara (new)		Awaiting supply	Awaiting Supply
Toyota	Aygo		Standard seat, cloth, 2 way, fixed head restraint	Marginal
Toyota	Yaris	Passive Seat	Standard seat, cloth, 2 way, manual	Marginal
Toyota	Yaris	Passive Seat	Standard seat, cloth, 4 way, manual	Marginal
Toyota	Yaris TS		Awaiting supply	Awaiting Supply
Toyota	Auris	Passive Seat	Standard seat, cloth, 2 way, manual	Marginal
Toyota	Corolla Verso	Passive Seat	Standard seat, cloth, 6 way, manual	Poor
Toyota	Avensis	Passive Seat	Standard seat, cloth, 4 way, manual	Acceptable
Toyota	Prius	Passive Seat	Standard seat, cloth, 4 way, manual	Marginal
Toyota	RAV-4		Awaiting supply	Awaiting Supply
Vauxhall/Opel	Corsa		Awaiting supply	Awaiting Supply
Vauxhall/Opel	Astra		Standard seat, cloth, 2 way, manual	Marginal
Vauxhall/Opel	Vectra	Reactive Head Restraint	Standard seat, cloth, 6 way, manual	Acceptable
Vauxhall/Opel	Signum	Reactive Head Restraint	Standard seat, cloth, 6 way, manual	Acceptable
Vauxhall/Opel	Tigra	Reactive Head Restraint	Sport seat, cloth, 4 way, manual	Good
Vauxhall/Opel	Meriva	Reactive Head Restraint	Standard seat, cloth, 2 way, manual	Acceptable
Vauxhall/Opel	Meriva		Standard seat, cloth, 2 way, manual	Poor
Vauxhall/Opel	Zafira		Standard seat, cloth, 4 way, manual	Marginal
Vauxhall/Opel	Antara		Awaiting supply	Awaiting Supply
Volkswagen	Fox		Standard seat, cloth, 2 way, manual	Marginal
Volkswagen	Polo		Standard seat, cloth, 4 way, manual	Poor
Volkswagen	Golf	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Acceptable
Volkswagen	Golf		Awaiting supply	Awaiting Supply
Volkswagen	Golf GTI	Reactive Head Restraint	Sport seat, cloth, 4 way, manual	Acceptable
Volkswagen	Golf GTI		Awaiting supply	Awaiting Supply
Volkswagen	Golf Plus	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Acceptable
Volkswagen	Golf Plus		Awaiting supply	Awaiting Supply
Volkswagen	Eos		Standard seat, cloth, 4 way, manual	Marginal
Volkswagen	Beetle	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Acceptable
Volkswagen	Jetta	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Acceptable
Volkswagen	Jetta		Standard seat, cloth, 4 way, manual	Marginal

Make	Current Model	Anti-Whiplash System	Seat Description	Overall Rating
Volkswagen	Passat	Reactive Head Restraint	Standard seat, cloth, 4 way, manual/electric	Acceptable
Volkswagen	Passat		Awaiting supply	Awaiting Supply
Volkswagen	Touran	Reactive Head Restraint	Standard seat, cloth, 4 way, manual	Acceptable
Volkswagen	Touran		Awaiting supply	Awaiting Supply
Volkswagen	Sharan		Standard seat, cloth, 4 way, manual	Poor
Volkswagen	Touareg		Standard seat, cloth, 4 way, manual	Marginal
Volvo	C30	Re-Active Seat	Standard seat, cloth, 6 way, manual, fixed head restraint	Good
Volvo	S40	Re-Active Seat	Standard seat, cloth, 6 way, manual	Good
Volvo	V50	Re-Active Seat	Standard seat, cloth, 6 way, manual	Good
Volvo	S60	Re-Active Seat	Standard seat, cloth, 6 way, manual	Good
Volvo	V70	Re-Active Seat	Standard seat, cloth, 6 way, manual	Good
Volvo	S80	Re-Active Seat	Standard seat, leather, 6 way, manual	Good
Volvo	XC90	Re-Active Seat	Standard seat, leather, 6 way, manual	Good

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