

**IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF TEXAS  
DALLAS DIVISION**

JEAN MELCHIOR,

Plaintiff,

v.

HILITE INTERNATIONAL, INC.,

Defendant.

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No. 3:11-CV-3094-M

**ORDER**

Before the Court are Defendant’s Motion for Judgment as a Matter of Law Under Rule 50(b), Alternative Motion for a New Trial or Remittitur Under Rule 59(a)(1), and Motion for Reconsideration of the Court’s Claim Construction Rulings [Dkt. No. 273]; Plaintiff’s Renewed Motion for Judgment as a Matter of Law [Dkt. No. 269]; Plaintiff’s Motion for Entry of Judgment on the Verdict [Dkt. No. 272]; and Plaintiff’s Motion for Award of Pre-Judgment and Post-Judgment Interest [Dkt. No. 270].

For the reasons stated herein, Defendant’s Motion for Judgment as a Matter of Law Under Rule 50(b), Alternative Motion for a New Trial or Remittitur Under Rule 59(a)(1), and Motion for Reconsideration of the Court’s Claim Construction Rulings are **DENIED**; Plaintiff’s Renewed Motion for Judgment as a Matter of Law is **DENIED**; Plaintiff’s Motion for Entry of Judgment on the Verdict is **GRANTED**; and Plaintiff’s Motion for Award of Pre-Judgment and Post-Judgment Interest is **GRANTED in part**.

**I. The Jury’s Findings**

On February 27, 2015, the jury returned a verdict in favor of Plaintiff Jean Melchior (“Melchior”) against Defendant Hilite International, Inc. (“Hilite”), making the following findings:

- Chrysler directly infringed Claims 22–25 of U.S. Patent No. 5,645,017 (“the ’017 Patent”) and Claim 5 of U.S. Patent No. 5,507,254 (“the ’254 Patent”);
- Hilite actively induced Chrysler to directly infringe Claims 22–25 of the ’017 Patent and Claim 5 of the ’254 Patent;
- Sales of Fast Phasers by Hilite to Chrysler contributed to Chrysler’s direct infringement of Claims 22–25 of the ’017 Patent and Claim 5 of the ’254 Patent;
- GM directly infringed Claims 7–10, 12–15, and 18 of U.S. Patent No. 5,649,506 (“the ’506 Patent”);
- Hilite’s sales of Fam-B OCVs (“Fam-Bs”) to GM in Asia infringed Claims 7–10, 12–15, and 18 of the ’506 Patent under 35 U.S.C. §271(f)(1)-(2);
- Hilite did not prove by clear and convincing evidence that Claims 22 and 24 of the ’017 Patent are anticipated by Danckert;
- Hilite did not prove by clear and convincing evidence that (1) the United Kingdom patent application of Dr. Ma disclosed the invention claimed in the Melchior patents in a manner that would enable a person of ordinary skill in the art to make and use the invention; (2) Ford exercised reasonable diligence between October 4, 1988, and October 22, 1990, in reducing the invention in Dr. Ma’s patent application to practice; (3) Ford maintained the invention disclosed in Dr. Ma’s patent application, and did not abandon, suppress, or conceal the invention between October 4, 1988 and October 22, 1990;
- Hilite did not prove by clear and convincing evidence that Claims 22–25 of the ’017 Patent are obvious, nor that Claims 1–2, 7–10, 12–15, and 18 of the ’506 Patent are obvious;

- Melchior is entitled to \$14,530,692 as a reasonable royalty for the infringement by Hilite for sales of the Fast Phaser to Chrysler;
- Melchior is entitled to \$2,249,172 as a reasonable royalty for the infringement by Hilite for sales of the Fam-B to GM.

### **I. Defendant’s Motion for Judgment as a Matter of Law Under Rule 50(b)**

Hilite moves under Fed. R. Civ. P. 50(b) for judgment as a matter of law on direct infringement, indirect infringement, invalidity, and damages [Dkt. Nos. 249, 255], and renews its pre-trial Motion for Summary Judgment [Dkt. No. 171].

#### **A. Legal Standard**

Under Rule 50(b), the Court may grant a motion for judgment as a matter of law if it finds that a “reasonable jury would not have a legally sufficient evidentiary basis to find for the party” on the issue raised. Fed. R. Civ. P. 50(b). “When reviewing jury verdicts, the court views all the evidence and draws all reasonable inferences in the light most favorable to the verdict.” *Black v. Pan Am. Labs., L.L.C.*, 646 F.3d 254, 258 (5th Cir. 2011). A motion for JMOL is granted only if the facts and inferences point so strongly in favor of the moving party that a rational jury could not arrive at a contrary verdict. *Forte v. Wal-Mart Stores, Inc.*, 780 F.3d 272, 275 (5th Cir. 2015). The Federal Circuit has interpreted the Fifth Circuit’s standard as requiring the jury’s determination to be supported by substantial evidence. *Mirror Worlds, LLC v. Apple Inc.*, 692 F.3d 1351, 1357 (Fed. Cir. 2012).

#### **B. Analysis**

Hilite argues that Melchior’s case for infringement is based on speculation: “that during the fraction of a second the internal spool valve passes a 0.2 mm ‘overlap’—as it moves from the hold mode to the advance mode—a torque pulse may occur in the right direction, that will be strong enough to open the B1 check valve, stronger still to close the P pump check valve, and long enough

in time to directly transfer enough oil from the retard chamber to the advance chamber so as to vary the position of the camshaft.” Dkt. No. 273 at 9.<sup>1</sup> Hilite contends that Melchior did not provide any evidence to support the jury’s findings of direct infringement, induced infringement, or contributory infringement.

### **i. Direct Infringement**

To prove direct infringement, “a patentee must either point to specific instances of direct infringement or show that the accused device necessarily infringes the patent in suit.” *ACCO Brands, Inc. v. ABA Locks Mfrs. Co.*, 501 F.3d 1307, 1313 (Fed. Cir. 2007). Hilite argues that Melchior’s expert, Dr. Hullender, did not perform any tests on the accused Fast Phaser or Fam-B Phaser (“Hilite phasers”), much less tests on an “internal combustion engine,” which is specifically referenced in the claims.<sup>2</sup> Dkt. No. 273 at 10. Hilite also contends that Hullender testified that he did not know how Chrysler or GM program their computers to move the internal spool valve to operate the Hilite phasers in their respective engines.<sup>3</sup> Therefore, Hilite argues that Melchior had to

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<sup>1</sup> The page number for docket entries refers to the file-stamped page number, e.g. Page 9 of 35 in Document 273.

<sup>2</sup> This is not precisely correct. Hullender testified that he “tested many [Chrysler] Pentastar engines as part of the timing system where [he] tested for the performance of the timing system and durability, but [he] did not monitor or evaluate the phaser performance.” Def. App. 642–43 (Feb. 18, 2015 Trial Tr. at 70:3-10). Hullender went on, “[s]o we had Pentastar prototype engines in the position at Borg—Warner that were tested.” *Id.* at 70:10-11. Hullender conceded that he did not test for “phaser performance,” did not determine “how the Chrysler engine moves the oil control valve during its operation,” or the “position of the oil control valve at any time in the operation of a Chrysler engine,” nor did he “measure the pressures inside the chambers of the Hilite phaser during operation in a Chrysler engine,” or “determine the pressure of the supply oil of the Hilite phaser during operation of a Chrysler engine [to interpret the performance of the phaser],” nor did Hullender “measure the flows inside the Hilite phaser during operation in a Chrysler engine.” *Id.* at 70:12-71:12.

<sup>3</sup> This is also not precisely correct. Hullender testified, “Chrysler gives Hilite a specification that they want a certain speed on adjustment of the phase, and they also specify that they want to control the phase within plus or minus two degrees at some target value . . . all of those tests that we saw Hilite doing was to prove to Chrysler that they could meet their specifications.” Def. App. 783–84 (Feb. 18, 2015 Trial Tr. at 212:25-213:6). Hullender also testified that he “know[s] the concept of what [Chrysler’s] doing in terms of feedback control through their little computer to position the valve, to control the phaser,” and he “just [does not] know specifically the details of [Chrysler’s] values for a particular condition” because Chrysler keeps it a secret.” *Id.* at

show that the Hilite phasers necessarily infringe the claims of the Melchior patents when they are used in a Chrysler Pentastar engine and a GM engine, respectively. *Id.* Hilite argues there was not substantial evidence in the record to support such a finding. *Id.*

Hullender testified that Hilite added the B1 check valve to the valve structure with flow passages to achieve the Melchior “chamber-to-chamber direct flow.” Def. App. 737 (Feb. 18, 2015 Trial Tr. at 165:4-10). However, Hilite argues that it was undisputed at trial that Hilite added the B1 check valve to recirculate oil so as to assist the oil provided by the pump and increase the speed of its cam phasers. Dkt. No. 273 at 4 (citing Def. App. 115–16, 1119, 1131 (Feb. 24, 2015 Trial Tr. at 20:8-21:20, 24:1-13, 36:3-19); Def. App. 2237 (DX 192)). This evidence relied on by Hilite describes the accused phasers as having a “cam-torque assisted” system. *See id.* At trial, the parties stipulated that there is “no infringement at any moment in time during which the pump is supplying oil to the phaser chambers via the P check valve, even when assisted by oil recirculated via the B1 check valve.” Def. App. 396 (Feb. 17, 2015 Trial Tr. at 89:6-17). Thus, Hilite argues that the existence of the B1 check valve to recirculate oil does not prove infringement necessarily occurs when the accused phasers are operating in Chrysler and GM engines. Dkt. No. 273 at 11.

Next, Hilite argues that the evidence in the record does not support Hullender’s testimony that there must be infringement because Hilite intentionally added the 0.2 mm overlap. Dkt. No. 273 at 4 (citing Def. App. 736, 756 (Feb. 18, 2015 Trial Tr. at 164:19-22, 184:10-14)). Hilite argues that the 0.2 mm overlap was added to the Hilite phasers for stability, to ensure that the pump P port will always open before the drain T port in both the retard and advance directions. *Id.* (citing Def. App. 869–70 (Feb. 19, 2015 Trial Tr. at 27:4-28:9), 1135–37 (Feb. 24, 2015 Trial Tr. at 40:1-42:1); Def. App. 2238 (DX 1933); Def. App. 2235 (DX 82 at 13)). Hilite contends that there is no evidence that the 0.2 mm overlap was added to vary the position of the camshaft in a manner that

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212:1-10. He did, however, testify that he had not “seen anything specifically from Chrysler.” *Id.* at 212:16-17.

would necessarily infringe the Melchior patents when operating in an engine. Dkt. No. 273 at 12. Finally, Hilite asserts that the parties agreed that during normal engine operation, the internal spool valve, in a fraction of a second, passes the 0.2 mm overlap when moving from the hold mode to the advance mode, and Hullender did not know how fast the spool moves past the overlap. *Id.* (citing Def. App. 919–21 (Feb. 19, 2015 Trial Tr. at 77:24-78:17, 79:5-8); Def. App. 1257–58 (Feb. 24, 2015 Trial Tr. at 162:21-163:20)).

Thus, Hilite argues that Melchior can rely only on Hullender’s testimony, in which he stated that “[t]here’s absolutely no way that that phaser can operate without being in that little range and control what’s going on. Otherwise—well it just has to be in there,” which is insufficient to show direct infringement will necessarily occur during the normal engine operation. Dkt. No. 273 at 12 (citing Def. App. 923 (Feb. 19, 2015 Trial Tr. at 81:21-24)). Hilite argues that the evidence in the record relating to the B1 and P check valves during engine operation is limited to a document showing that Hilite increased the strength of the B1 check valve to make sure that torque pulses would not close the P pump check valve and increase stability, and a Borg Warner flow diagram showing oil flowing from the P pump check valve and the B1 check valve when the internal spool valve was in the overlap “Spool Position 3.” *Id.* at 6 (citing Def. App. 2096 (DX 46 at 94); Def. App. 930-31 (Feb. 24, 2015 Trial Tr. at 88:25-89:24); Def. App. 1208–09 (Feb. 24, 2015 Trial Tr. at 113:19-114:19); Def. App. 2296 (PX 39 at 24)).

Melchior responds that Hullender’s testimony and that of Hilite’s engineer, Andreas Knecht’s, show that the Hilite phasers necessarily infringe. Dkt. No. 284 at 4–6. First, Melchior argues that, contrary to Hilite’s assertion, it was disputed that the B1 check valve was added for non-infringing purposes, and that it was for the jury to weigh the credibility of the witnesses and determine whether the B1 check valve was, in fact, added for non-infringing purposes. *See Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1351 (Fed. Cir. 2001) (“To the extent that there was conflicting evidence, the jury’s evaluation of the evidence

could include determinations of the reliability of the data and the credibility of the witnesses.”); *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1317 (Fed. Cir. 1999) (“As the finder of fact, the jury receives deference for its function of weighing witness demeanor, credibility, and meaning.”).

Next, in response to Hilite’s argument that it was undisputed at trial that Hilite added the B1 check valve to recirculate oil so as to assist the oil provided by the pump and increase the speed of its cam phasers, Melchior relies on Hilite’s own testing, which he argues shows that when there is sufficient pressure to open the B1 check valve, the P check valve will close, a necessary condition for infringement. *See* Def. App. 2363, 2443–44, 2456 (PX 087). Although Hilite presented evidence that this testing had nothing to do with the operation of the phaser, Hullender testified in detail that Hilite’s testing showed the Hilite phasers necessarily use the Melchior range. *See* Pl. App. 29–38 (Feb. 18, 2007 Trial Tr. at 166:19-175:2).

Addressing the 0.2 mm overlap, Melchior rejects Hilite’s repeated assertions that the position is non-functional, and urges that the evidence showed it allows a “huge” flow of 3 to 4 liters a minute. Dkt. No. 284 at 7 (citing Pl. App. 97 (Feb. 24, 2015 Trial Tr. at 74:12-18)). Moreover, Knecht admitted that the 0.2 mm position is used to adjust the phase. *Id.* (citing Pl. App. 41 (Feb. 18, 2015 Trial Tr. at 181:24-182:12); Pl. App. 95 (Feb. 24, 2015 Trial Tr. at 69:3-8, 69:12-19)). Melchior argues that the combination of the 0.2 mm overlap *and* the addition of the B1 check valve established infringement. *Id.*

Finally, Melchior argues that Hilite relies on its own interpretation of Defendant’s Exhibit (DX) 46 to argue that the pump is always working and thus that the phasers are not infringing, but Hullender testified that DX 46 shows *both* infringement and oil replenishment for leaks, and that the pump is not working during the phase change when the infringement is taking place. Dkt. No. 284 at 7 (citing Pl. App. 62–64 (Feb. 19, 2015 Trial Tr. at 85:7-87:9); Pl. App. 66–67 (Feb. 19, 2015 Trial Tr. at 100:22-101:16)). Melchior also argues that Hilite misrepresents Plaintiff’s Exhibit (PX) 39, which shows all possible flow paths, and about which Hullender testified that the pump

flow is not continuous and cannot operate during a transfer of fluid between chambers of the phaser. *Id.* (citing Pl. App. 47 (Feb. 18, 2015 Trial Tr. at 233:1-18)).

The Court finds there was substantial evidence before the jury to establish that the Hilite phasers necessarily infringe the Melchior patents. Melchior presented evidence to the jury in the form of Dr. Hullender's testimony that Hilite added the B1 check valve to establish the chamber-to-chamber flow that infringes the claims of the Melchior patents. Moreover, Melchior relied on Hilite's own testing to show that the B1 check valve will open and the P check valve will close when there is adequate pressure. Hullender's and Knecht's testimony presented evidence that the 0.2 mm overlap allows a substantial flow that is used to adjust the phase. *See* Pl. App. 41, 97. Taken together with the addition of the B1 check valve, this constituted substantial evidence from which the jury could have reasonably concluded that the accused Hilite phasers necessarily infringe the claims of the Melchior patents. Though Hilite offered contrary evidence, as discussed above, the jury was free to disbelieve that evidence and credit the evidence presented by Melchior through Dr. Hullender, Hilite's own test results, and the cross-examination of Knecht. *See i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 850 (Fed. Cir. 2010) (finding a reasonable jury could have found direct infringement based on conflicting evidence).

Hilite also argues that Melchior's expert, Dr. Hullender, began this case with one theory of infringement—that it necessarily takes place because the only way to increase speed is to use the 0.2 mm overlap position so the direct transfer allows the vane to advance the phaser quickly— but put forward another theory in Melchior's response to Hilite's motion for summary judgment—that infringement necessarily occurs while Chrysler and GM operate the accused phasers in “hold mode.” Dkt. No. 273 at 14 (citing Def. App. 1980, 1895, 1899–1900, 1927–28; Dkt. No. 184 at 1, 5–21). The Court excluded before trial, as untimely, the “hold mode” theory of infringement, after which Hullender testified that infringement must necessarily occur because the overlap acts to slow down the phaser, i.e., what Hilite labels the “brake” theory of infringement. *Id.* (citing Def. App.

729–30). Hilite argues Hullender’s brake theory directly contradicted his expert report and deposition testimony because in both, he stated that infringement necessarily takes place because the only way to increase speed in the phasers was to use the 0.2 mm position. Dkt. No. 273 at 15–16. Hilite also argues that the brake theory contradicts the Melchior patents, which allegedly teach that the invention allows for a “rapid phase shift” of the cam phaser and provides for “varying the position of at least one camshaft relative to the crankshaft.” *Id.* at 16 (citing Def. App. 2247).

Hilite particularly objects to Hullender introducing his brake theory at trial, over its objection, with a new analysis of PX 100, which was an engineering report by Hilite that compared “Fast Phasing OCVs and non-fast phasing OCVs . . . using response time of CAM angle shift.” Hullender relied on PX100 to conclude that, because the phaser overshot the target angle of 25 degrees, undershot, and then reduced speed to reach 25 degrees, infringement must have occurred. Dkt. No. 273 at 15 (citing Def. App. 726–30 (Feb. 18, 2015 Trial Tr. at 154:25-158:25)). Hilite argues that neither the dynamic speed test shown in PX 100 nor Hullender’s brake theory were included in Hullender’s expert report. *Id.* Rather, his expert report only mentioned page nine of PX100 as evidence that removal of B1 ports and the B check valve result in phase shifting speed reduction. *Id.* (citing Def. App. 1982–83 (Hullender Rep. at 23–24)).

At trial, the Court, seeking to determine if this was a new opinion not previously referenced, asked Hullender whether he was asked about PX 100 in his deposition, to which he answered “[a]bsolutely, your Honor . . . [w]e talked for hours about the—curves and test results like this.” Def. App. 722 (Trial Tr. at 150:2-5).<sup>4</sup> Hilite now argues that Hullender testified untruthfully,

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<sup>4</sup> Hilite specifically objected that Hullender’s expert report did not discuss PX 100, and/or the graphs on page 4 of PX 100. . Def. App. 716 (Feb. 18, 2015 Trial Tr. at 144:7-9). Melchior responded at trial that PX 100 was among the documents that Hullender reviewed, and the cavitation performance of the phaser was repeatedly referenced in his expert report. *Id.* at 717–18 (Feb. 18, 2015 Trial Tr. at 145:15-146:23). Melchior further responded that page 13 of Hullender’s expert report discussed the “CTA to advance mode,” and “the fact that the Melchior mode must be utilized to minimize, overshoot and undershoot.” *Id.* at 721 (Feb. 18, 2015 Trial

because he was not actually asked about PX 100 in his deposition. Dkt. No. 273 at 16 (citing Def. App. 2308–2514 (PX 79–88)). Hilite asserts that, in fact, there was no discussion at his deposition of “curves and test results like this,” which it interprets to mean “dynamic speed tests of the type shown in PX 100,” and that Hullender testified at his deposition that he had not looked at any dynamic test data. *Id.* (citing Def. App. 1876–78 (Hullender Dep. Tr. at 448:23–450:3)).

Hilite further argues that Melchior never showed how the Hilite tests reported in PX 100 relate to how the Hilite phasers operate in a Chrysler or GM internal combustion engine, and Hullender acknowledged that the movement of the phasers would be different in an internal combustion engine because the phase angle would continually change.<sup>5</sup> Dkt. No. 273 at 9–10 (citing Def. App. 912 (Feb. 19, 2015 Trial Tr. at 70:5-13); Def. App. 2528–36 (PX 100)). Hilite attempts to bolster its critique of Hullender’s interpretation of PX 100 by relying on the testimony of Hilite’s expert, Fred Smith, who testified that the tests in PX 100 do not at all explain how the Hilite phasers operate in Chrysler or GM engines, and that the same tests were performed with a flow measurement that showed the pump operating and the P check valve open during every phase shift. *Id.* at 10 (citing Def. App. 1254–55 (Feb. 24, 2015 Trial Tr. at 159:20-160:4); Def. App. 1259–65 (Feb. 24, 2015 Trial Tr. at 164:6-170:9); Def. App. 2187 (DX 55 at 14); Def. App. 2221 (DX 55A)). Accordingly, Hilite argues that Hullender’s testimony, specifically the excerpt that relied on PX 100, cannot constitute evidence of direct infringement.

Hilite similarly criticizes Hullender’s testimony regarding Slide 92 of PX 87, a PowerPoint presentation addressing technical design issues with prototype Fast Phasers for Chrysler, arguing that Hullender did not disclose his reliance on this slide in his expert report and that Hullender’s testimony was rebutted by Smith. Dkt. No. 273 at 10 (citing Def. App. 734–36 (Feb. 18, 2015 Trial Tr. at 149:9-14)). This exchange prompted the Court to ask Dr. Hullender questions about PX 100 and his expert report.

<sup>5</sup> Rather than going from “0 to 25, 0 to 25, 0 to 25” degrees, it goes “5 to 15, 5 to 16, 16 to 11, 11 to 17” degrees, for example, when the engine is powering a car driving through West Texas. Def. App. 904–05 (Feb. 19, 2015 Trial Tr. at 70:5-13).

Tr. at 162:11-164:22)). Hilite also criticizes Hullender's testimony regarding the "tight valve test" on slide 82 of PX 87, which Knecht and Smith testified was only done on an oil control valve, not an operating cam phaser in an internal combustion engine. Dkt. No. 273 at 10–11 (citing Def. App. 1138–39 (Feb. 24, 2015 Trial Tr. at 43:10-44:9); Def. App. 1241–42 (Feb. 24, 2015 Trial Tr. at 146:25-147:14)).

Finally, Hilite argues that Hullender repeatedly testified that infringement occurred by using terms such as "Melchior range," and variants thereof, which constitutes oversimplified and improper summary testimony by an expert. *See Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 876 (Fed. Cir. 1998) (finding no genuine issue of material fact precluding summary judgment where plaintiff relied in part on wholly conclusory expert declarations).

Melchior responds that Hilite is misrepresenting Hullender's testimony and that he did not change his theory of infringement. First, Melchior notes that Hullender clarified at trial that he was referring to the operation of a phaser in a controlled manner when he stated in his report that the Melchior position is the only way to increase the speed. Dkt. No. 284 at 8. Next, Melchior argues that the so-called brake theory does not represent a change in Hullender's theory of infringement because, as he testified, the Melchior position is part of the controlled operation of the phaser discussed in his expert report and exists in the context of Hilite's uncontrolled operation, i.e., at the "full-in" advancement of the phaser, the Melchior position being necessary to bring the phaser under control to land it on the desired target angle. *Id.* (citing Pl. App. 21 (Feb. 18, 2015 Trial Tr. at 158:14-20)). Melchior argues that Hilite's arguments with respect to an alleged new "brake theory" of infringement is a red herring, because the alleged theory only describes how the technology operates, not how the devices infringe. Dkt. No. 284 at 17. Melchior argues Hullender's use of the term "brake" was only part of an illustration for the jury, and was introduced as an analogy to explain why Hilite's failure to use the Melchior method would result in "side effects or potentially damaging results." *Id.* (citing Pl. App. 20–21 (Feb. 18, 2015 Trial Tr. at

157:1-158:20)). Melchior argues it is permissible for an expert to use analogies not specifically discussed in his report to illustrate the basis for his opinions and methodology. *Id.* (citing *Creative Internet Adver. Corp. v. YahooA Inc.*, No. CIV A 6:07CV354, 2009 WL 2382136, at \*10 (E.D. Tex. July 30, 2009) (denying a new trial where expert used new term in rebuttal to clarify his previous testimony regarding infringement)). Melchior argues that Hullender's infringement theory has been consistent throughout the case, and that Hilite is merely pouncing on semantical differences in Hullender's trial presentation to futilely show that his theory has changed, when in fact, it has not. Dkt. No. 284 at 18–19.

The Court finds that Dr. Hullender's infringement theory was basically consistent throughout the case, though sometimes illustrated to the jury using different terms. In his expert report, Dr. Hullender stated:

During favorable torque pulses, the vane is pushed towards the right by the torques on the camshaft. The oil in the retard chamber becomes over pressurized causing the check valve B1 to open and fluid flow directly from the retard chamber into the advance chamber. The overlap of the steering edge of the spool land on the actuator end of the spool blocks flow through the B holes to the sump while simultaneously the [spool land] on the spring end of the spool allows flow into the A holes. This flow into the A holes comes from the retard chamber, through the B1 holes, through the B1 check valve, and then along the recessed area of the spool. So, there is a closed circuit between the two chambers resulting in chamber to chamber flow. Examination of the dimensions and location of the Hilite [spool lands] confirm the validity of the BW slides and confirm the Fast Phasing chamber to chamber fluid transfer of the Hilite phaser. Pl. App. 164 (Hullender Rep. at 14).

At trial, Hullender testified as follows regarding what Hilite calls the brake theory of infringement:

Q: Are there any other side effects or potentially damaging results that can occur going from – using this full in position?

Dr. Hullender: Well –can I use an analogy to explain the answer?

. . . The Melchior range that provides this hydraulic connection from chamber to chamber is like the brakes. What it does is it – by moving that little spool – the control . . . [the little wheels on the camshaft] . . . it's figuring out where the spool is versus where it needs to be . . . [a]nd the little electric controller is saying, oh, you've gone 26 degrees, 28 degrees, 30 degrees, you need to be back at 25. And that's why you – it immediately

slams the spool back to the full out position, and it's like shifting your car into reverse. But with the Melchior range, what happens is, once you get into that Melchior range, it becomes like a brake, because now you're controlling the flow that's – and you're controlling the speed that that little – that little vane is moving in advance. And consequently, you now can control the speed in a controlled manner, whereas you can't do it if you're fully out of control. So . . .

Q: But the Melchior range – you talk about slowing down. You're not talking about retarding, this is still the advance stage, you're just slowing the advance or you're just kind of –

Dr. Hullender: Oh, absolutely. Yes, sir. Pl. App. 20–21 (Feb. 18, 2015 Trial Tr. at 157:5-158:25).

The Court finds that Dr. Hullender's testimony is sufficiently consistent with the theory set forth in his expert report, and to the extent he incorporated the term "brake" in explaining his theory to the jury, it was merely an explanation or illustration of his prior opinion. The Court also does not find that Dr. Hullender's utilization of PX 100 was improper. It was cited in his expert report, and Hilite was able to fully cross-examine Dr. Hullender about his interpretation of both PX 100 and PX 87. Finally, although Hilite describes Dr. Hullender's testimony as improper, at least to the extent that he repeatedly referred to the "Melchior range," the Court finds this testimony was merely shorthand for the 0.2 mm position of the spool that allows for the direct transfer of flow from one chamber to the other, i.e., "Position 3" or "the Melchior range." *See* Pl. App. 17–18 (Feb. 18, 2015 Trial Tr. at 141:1-142:16). Having described the spool position in detail, it was not error for Dr. Hullender to use "Melchior range" in his testimony.

In conclusion, the Court finds there was substantial evidence to support the jury's finding of direct infringement for the claims at issue.

## **ii. Induced Infringement**

Hilite argues there was no evidence to support the jury's findings of induced infringement because the Fast Phaser and Fam-B phaser have substantial non-infringing uses, and Melchior presented no evidence that Hilite took any steps to encourage Chrysler to operate the Fast Phaser in any mode of operation that infringes the Melchior patents. Dkt. No. 273 at 13.

Hilite argues that it is not enough to state that Hilite intended that its product use the B1 check valve or intended that it have a 0.2 mm overlap because those features do not necessarily infringe the Melchior patents. *Id.*

Melchior responds that there was ample evidence before the jury that Hilite knew of the Melchior patents and intentionally included the B1 check valve and spool position 3 that would trigger the use of the Melchior method. Dkt. No. 284 at 10. At a minimum, Melchior argues, there was evidence that Hilite was willfully blind to the risk of infringement. Hilite's corporate representative testified that the action of the B1 check valve and the direct transfer path between chambers were intentional parts of the design and not the result of an accident. Pl. App. 93–96, 98–99 (Feb. 24, 2015 Trial Tr. at 66:12-67:2, 69:3-8, 70:15-23, 69:12-19, 98:13-99:11).

Melchior also relied on evidence that Hilite was aware of the Melchior technology as early as 1999 and, as Hilite designed the Fast Phaser, it included Melchior's methods and patents in its presentations to other companies. *See* Pl. App. 86–87, 91–92 (Feb. 24, 2015 Trial Tr. at 26:13-27:3, 53:23-54:6); PX 77 at 47 (October 2005 Presentation to Ford). Melchior also notes that there was evidence before the jury that Hilite tested the possibility of removing the infringing features of its phasers, but ultimately created an infringing product. Pl. App. 24–28 (Feb. 18, 2015 Trial Tr. at 161:5-23, 162:11-165:10). Thus, Melchior argues that the evidence was sufficient for the jury to find Hilite willfully blind to a high likelihood of infringement by Chrysler and GM of the Melchior patents. Finally, Melchior notes that there was no evidence Hilite ever sought a legal opinion about whether its phasers infringed, and to the extent Melchior once stated that he in “good faith” believed Hilite was not infringing his patents, that comment was based on false representations from Hilite that it had only discovered the existence of the Melchior range in 2011, when in fact, Hilite had incorporated the Melchior range into its phaser long before 2011. Dkt. No. 284 at 10–11.

The Court finds there was substantial evidence before the jury to support a finding of induced infringement. To be liable for inducing infringement, the defendant must actively and knowingly aid and abet another's direct infringement. *Water Techs. Corp. v. Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1998). Evidence of intent may be proven by circumstantial evidence, but the inducer must have actual or constructive knowledge of the patent. *See Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 909 F.2d 1464, 1469 (Fed. Cir. 1990) (“[P]roof of actual intent to cause the acts which constitute the infringement is a necessary prerequisite to finding active inducement.”). Induced infringement requires knowledge that the induced acts constitute patent infringement. *Global-Tech v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011). However, the Court has also held that “willful blindness” suffices to establish the knowledge required for induced infringement. *Id.* at 2069. The willful blindness doctrine has two components: “(1) the defendant must subjectively believe that there is a high probability that a fact exists, and (2) the defendant must take deliberate actions to avoid learning of that fact.” *Id.*

Here, there was evidence that Hilite was aware of the Melchior patents as it designed its phasers, and even referenced the Melchior technology in presentations to customers. *See* PX 77 at 47. Furthermore, there was evidence that Hilite tested its phasers without the infringing features, yet decided to proceed with a design that included the Melchior range. *See* Pl. App. 24–28 (Feb. 18, 2015 Trial Tr. at 161:5-23, 162:11-165:10). This evidence and other evidence presented to the jury was substantial enough for the jury to conclude that Hilite knew of the Melchior patents and intentionally included the B1 check valve and spool position that employ the Melchior method, or at least that it was willfully blind to the probability that the Melchior method would be utilized in the running of the Fast Phaser and Fam-B phasers. The Court finds there was substantial evidence to support the jury's finding of induced infringement.

### **iii. Contributory Infringement**

Hilite argues that because the Hilite phasers have substantial non-infringing uses, and were not designed or adapted for use in an infringing manner, there can be no contributory infringement as a matter of law. Specifically, Hilite states that the evidence at trial established that the Hilite phasers can retard and advance the camshaft without practicing the Melchior method. Dkt. No. 273 at 14 (citing Def. App. 801, 806–08 (Feb. 18, 2015 Trial Tr. at 229:4-9, 234:10-235:12, 236:2-21)). As further evidence that the Hilite phasers were not designed to infringe, Hilite notes that Melchior actually acknowledged that Hilite’s “strategy [was] to vent a fraction of the flow in both advance and retard modes,” which would be a non-infringing use. Dkt. No. 273 at 14 (citing Def. App. 2222 (DX 78)).

Melchior responds that the Hilite phasers do not have substantial non-infringing uses, and that they necessarily infringe in normal operations. Moreover, Melchior argues that the evidence established that the Hilite phasers were especially made or adapted for use as infringing devices. Dkt. No. 284 at 11 (citing Pl. App. 11-12 (Feb. 18, 2015 Trial Tr. at 119:22-120:2)).

As already discussed, there was substantial evidence before the jury that the Hilite phasers necessarily infringe. *See Phillips Electronics North America Corp. v. Contec Corp.*, 411 F. Supp. 2d 470, 476 (D. Del. 2006) (“[Defendant’s] argument is legally flawed, for it would indeed violate the ‘logic of the patent laws’ to allow a potential infringer to avoid liability for contributory infringement by simply adding a noninfringing function to a device that practices a patented method.”). Thus, there was substantial evidence to support the jury’s finding of contributory infringement.

### **iv. Element-by-Element Analysis**

As it did during trial, Hilite argues that Melchior was required to prove literal infringement by showing, by a preponderance of the evidence, that the accused Hilite phasers meet each and every element or limitation of the asserted claims. Dkt. No. 273 at 14 (citing

*Lemelson v. U.S.*, 752 F.2d 1538, 1551 (Fed. Cir. 1985) (“[I]n order for a court to find infringement, the plaintiff must show the presence of every element or its substantial equivalent in the accused device.” (citations omitted))). Thus, Hilite argues that because Dr. Hullender failed to expressly address infringement on a claim-by-claim, limitation-by-limitation basis in either his expert report or at trial, Hilite is entitled to judgment as a matter of law. Dkt. No. 273 at 15. Hilite alleges that Melchior’s infringement theory is based on Dr. Hullender’s improper and conclusory opinion that the Hilite phasers infringe the Melchior patents. Hilite relies on *Rohm and Haas Co. v. Brotech Corp.*, in which the Federal Circuit affirmed a district court’s finding that the patentee had not satisfied its burden of proof on two claim elements where the patentee “offered nothing more than its expert’s general opinion that the accused product . . . infringed the patents.” 127 F.3d 1089, 1092 (Fed. Cir. 1997); *see also CCC Grp., Inc. v. Martin Eng’g Co.*, No. 05-CV-00086-RPM-MJW, 2008 WL 4277764, at \*8 (D. Colo. Sept. 17, 2008) *amended on other grounds*, No. CIV.A. 05-CV-00086RP, 2009 WL 29460 (D. Colo. Jan. 5, 2009) (holding that an expert’s testimony was insufficient to meet the plaintiff’s burden of proof where the expert did not identify each element of the asserted claim in each accused system).

Melchior responds that the express limitation-by-limitation rule upon which Hilite relies is only applicable under the doctrine of equivalents. *Compare Lemelson*, 752 F.2d at 1550–51 (“We give no weight to the series of conclusory statements offered by Lemelson’s expert witness because, among other things, the statements do not even suggest that the accused devices possess a substantial equivalent . . . .” (emphasis added)) *with Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1296 (Fed. Cir. 2009) (“Infringement analysis under the doctrine of equivalents proceeds element-by-element; a generalized showing of equivalency between the claim as a whole and the allegedly infringing product or process is not sufficient to show infringement.”); *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997) (“[T]he doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole.”). Melchior

argues that there was sufficient evidence for the jury to determine if infringement exists for each of the asserted claims. Dkt. No. 284 at 12 (citing Pl. App. 44–46 (Feb. 18, 2015 Trial Tr. at 188:6-190:5))). Hullender testified that infringement occurs with respect to each asserted claim, and his testimony and expert report explained how the Hilite phasers work and when and where they infringe the Melchior claims. Finally, Melchior argues that *Rohm and Hass* actually shows that Melchior met his burden. In that case, the judge was the finder of fact, and, as such, decided the evidence weighed in favor of finding non-infringement. *Rohm and Hass*, 127 F.3d at 1092. The Federal Circuit affirmed. *Id.* Thus, Melchior argues that *Rohm and Hass* stands for the proposition that the finder of fact determines whether the plaintiff satisfied its burden of showing infringement, and that judgment as a matter of law is improper when there is before the jury substantial evidence of infringement. Finally, Melchior argues that the other case on which Hilite relies, *Symbol Technologies, Inc. v. Opticon, Inc.*, also supports Melchior’s position because, in that case, the Federal Circuit held that summary expert testimony on the ultimate issue of infringement is permissible in patent cases, which often entail “lengthy testimony on complex technical issues.” 935 F.2d 1569, 1576 (Fed. Cir. 1991). The expert in *Opticon* testified on the ultimate issue of infringement “without discussing in detail equivalency between the structures of the accused devices and the structures disclosed in the patent specification,” and the Federal Circuit held this was permissible, and the plaintiff could “rest its prima facie case on [its expert’s] testimony, including charts, that the patents were infringed, and the District Court was free to accept or reject that evidence.” *Id.*

As the district court put it in *Parkervision, Inc. v. Qualcomm Inc.*: “Notably, a patentee who rests its case ‘on summary testimony’ is left exposed to a ‘profound risk’ that the defendant ‘during its defense or cross-examination’ will demonstrate non-infringement.” 27 F. Supp. 3d 1266, 1280 (M.D. Fla. 2014) (quoting *Opticon*, 935 F.2d at 1575–76). Here, Hilite had the opportunity to fully cross-examine Dr. Hullender about whether each limitation in the asserted

claims was met. *See, e.g.*, Pl. App. 59 (Feb. 19, 2015 Trial Tr. at 82:6-11) (Q: And you're telling [the jury] that, to [find infringement] they have to agree with your opinion that, in a fraction of a second, the spool goes from 0 to 38, a couple of things have to happen at the same time, at least three. There's got to be a favorable torque pulse in the right direction, correct? Favorable torque pulse." A: "That's correct."). Thus, even assuming that Dr. Hullender's testimony could be characterized as "summary expert testimony," that is still not a basis for granting Hilite's motion for judgment as a matter of law because it was sufficient to establish infringement.

#### **v. Invalidity Based on Danckert**

Hilite argues that the trial testimony and charts established that each limitation of the Melchior claims-in-suit are anticipated by the Danckert reference or rendered obvious by the Danckert reference combined with the Shirai reference. Dkt. No. 273 at 26. Hilite argues that Dr. Hullender's testimony that Danckert does not disclose a "direct transfer in a closed line" is irrelevant—the claims do not require a "direct transfer in a closed line." *Id.* Furthermore, Hilite notes that Hullender conceded the law of continuity applies to the Danckert reference—the same amount of fluid that exits one chamber must enter the opposite chamber. *Id.* at 27. Like the Melchior claims, and because there is no other place for the fluid to flow, the Danckert method uses torque reversals alone to directly transfer fluid from chamber 15 to chamber 16 via transverse 29. *Id.* at 19.

Melchior responds that Hilite has failed to present clear and convincing evidence of invalidity because the jury simply rejected Dr. Smith's explanation of how the Melchior claims are anticipated or rendered obvious by Danckert and Shirai, and instead accepted Dr. Hullender's contrary analysis. Dkt. No. 284 at 15. Melchior notes that the PTO reached the same conclusion as did the jury in its reexamination of the Melchior patents, finding that this Court properly construed claims 22 and 24 of the '017 Patent, and that Danckert did not anticipate or render

obvious the Melchior claims under the PTAB's less stringent burden of proof, preponderance of the evidence. *Id.* at 15–16.

The Court finds there was substantial evidence presented to support the jury's conclusion that the claims-at-issue were not anticipated or rendered obvious by Danckert or Danckert and Shirai. Dr. Smith and Dr. Hullender presented extensive, competing testimony on this matter, and a rational jury could have concluded that Hilite failed to meet its burden of proof.

### **C. Conclusion**

For the reasons stated, the Court **DENIES** Hilite's Rule 50(b) Motion for Judgment as a Matter of Law.

## **II. Defendant's Motion for a New Trial on Infringement and Invalidity**

### **A. Legal Standard**

Under Federal Rule of Civil Procedure 59(a)(1), the Court may “grant a new trial . . . after a jury trial, for any reason for which a new trial has heretofore been granted in an action at law in federal court.” Rule 59 “confirms the trial court's historic power to grant a new trial based on its appraisal of the fairness of the trial and the reliability of the jury's verdict.” *Smith v. Transworld Drilling Company*, 773 F.2d 610, 612–13 (5th Cir. 1985). “For example, a new trial may be granted if the court finds that the verdict is against the weight of the evidence, that the trial was unfair, or that prejudicial error was committed in the course of the trial.” *Mid-Continent Casualty Company v. Eland Energy, Inc.*, 795 F. Supp. 2d 493, 546 (N.D. Tex. 2011) (Fitzwater, C. J.), *aff'd*, 709 F.3d 515 (5th Cir.2013).

### **B. Analysis**

Hilite moves in the alternative for a new trial, arguing that the jury's verdict on infringement and invalidity is against the great weight of the evidence. Hilite relies on the same arguments it asserts in support of its Motion for JMOL. However, as already discussed, the Court finds those arguments unavailing, particularly after considering the evidence in the light

most favorable to Melchior. The jury was free to credit or reject Dr. Hullender's testimony and the other evidence presented by Melchior and Hilite, and its verdict was not against the great weight of the evidence. Moreover, as discussed, the Court rejects Hilite's argument that Dr. Hullender's expert opinion was not adequately disclosed prior to trial, and he did not testify to an entirely new theory of infringement as Hilite argues.

Hilite also moves for a new trial as to damages, arguing that the jury's damages award was excessive or against the great weight of the evidence. Hilite argues that the analysis of Melchior's damages expert, Dr. Poindexter, was legally improper and cannot support the damages awarded. Hilite argues that Dr. Poindexter failed to properly consider several of the *Georgia-Pacific* factors, and relied only on *Georgia-Pacific*'s first factor and the Borg Warner license. Hilite contends that Dr. Poindexter's analysis of the first factor misinterpreted the Borg Warner license's "most-favored licensee" provision, failing to take into account important distinguishing facts between Borg Warner and Hilite. Dkt. No. 273 at 23 (citing *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1211 (Fed. Cir. 2010) ("We have recently reiterated that use of past patent licenses under factors 1 and 2 must account for differences in the technologies and economic circumstances of the contracting parties.")). Specifically, Hilite argues that Dr. Poindexter's testimony failed to account for the limited extent of Hilite's use of the Melchior technology because Hilite's phasers are only in the Melchior position for a fraction of a second. Dkt. No. 273 at 23–24. Thus, Hilite claims that a new trial on damages or a remittitur is appropriate. Should the Court choose to remit Melchior's damage award, Hilite claims the highest amount supported by the record is a royalty of 10-45 cents per unit. *Id.* at 24 (citing Def. App. 1482).

Melchior responds that he received royalties from Borg Warner at the same 90 cents per unit royalty rate awarded by the jury. Dkt. No. 284 at 19. Melchior argues that the Federal Circuit has repeatedly stated that using comparable licenses and established royalty rates are the

best means of measuring what is a “reasonable royalty.” *Id.* (citing *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1325 (Fed. Cir. 2014); *Nickson Indus., Inc. v. Rol Mfg. Co., Ltd.*, 847 F.2d 795, 797–98 (Fed. Cir. 1988)). Melchior argues Hilite is attempting to disregard the terms of the license between Melchior and Borg Warner, which required Melchior to lower the royalty rate to Borg Warner if Melchior later granted a lower rate to any third party. Dkt. No. 284 at 20 (citing PX 36 at 4 ¶ 3.02). Melchior argues that it was reasonable for Dr. Poindexter to conclude, as he did, that Melchior would not have granted a royalty rate lower than the 90 cents per unit in the Borg Warner license. *Id.* Melchior also notes that the Federal Circuit does not require witnesses to use any or all of the *Georgia-Pacific* factors when testifying about damages, citing *Whitserve, LLC v. Computer Packages, Inc.*, 694 F.3d 10, 31 (Fed. Cir. 2012). Furthermore, Melchior observes that although Dr. Poindexter principally relied on the first *Georgia-Pacific* factor, he paid attention to all of the factors. Pl. App. 74–76, 78–80 (Feb. 19, 2015 Trial Tr. at 142:8-143:13, 144:12-18, 201:7-203:24).

In response to Hilite’s argument that the extent of the infringement warrants a lower damages award, Melchior asserts that the Hilite phasers cannot operate without infringing the Melchior claims, and it was proper for the jury to consider this fact when deciding the proper royalty rate. Dkt. No. 284 at 21 (citing *Apple*, 757 F.3d at 1325). Finally, Melchior argues that Hilite’s proposed remittitur disregards evidence and reasonable inferences therefrom because it is derived from a different license for unrelated technology—the AISIN technology, “which was a ‘dirt bag’ or ‘dirt groove’ for the collection of dirt within the device—that, at most, involved only a portion of the Melchior’s phaser technology, not to mention the fact that the “most-favored licensee provision” in the Borg Warner license would have contractually obligated Melchior to reduce his royalty to Borg Warner, at a cost of millions of dollars. Dkt. No. 284 at 22 (comparing Pl. App. 72-73, 194 (Feb. 19, 2015 Trial Tr. at 139:21-140:2, 194:8-17) with Pl. App. 88–90 (Feb. 24, 2015 Trial Tr. at 46:18-48:12)). Melchior claims that the jury considered

the parties' competing royalty arguments and found Melchior and Dr. Poindexter's position more persuasive than Hilite and Dr. Ugone's position. Dkt. No. 284 at 23.

Based on the Borg Warner license and Dr. Poindexter's testimony, the Court concludes that the great weight of the evidence did not contradict the jury's royalty finding and damages award. Because Melchior had licensed the technology to Borg Warner and had a strong incentive to license his technology for no less than the rate in the Borg Warner license, the royalty found by the jury was not against the great weight of the evidence. *See Apple*, 757 F.3d at 1325–26 (“As we have held many times, using sufficiently comparable licenses is a generally reliable method of estimating the value of a patent.”) Nor was it necessary for the jury to reduce the royalty rate based on Hilite's argument that the Hilite phasers mostly operate in a non-infringing mode. *See id.* at 1325 (“Nor is there a requirement that a patentee value every potential non-infringing alternative in order for its damages testimony to be admissible.”). Melchior presented evidence that the Hilite phasers cannot operate without the Melchior method, and it was within the jury's province to take that evidence into account in determining the royalty, along with any evidence that Hilite could have employed a non-infringing alternative to the Melchior method. *See id.* at 1326 (“[T]he royalty that a similarly-situated party pays inherently accounts for market conditions at the time of the hypothetical negotiation, including a number of factors that are difficult to value, such as the cost of available, non-infringing alternatives.” (citation omitted)).

Based on the foregoing, Hilite's Rule 59(a) Motion for a New Trial is **DENIED**.

### **III. Claim Construction Ruling**

Hilite asks the Court to reconsider its claim construction rulings, specifically the omission of “without external power means” in the Court's construction of the asserted claims. Dkt. No. 273 at 32 (citing Dkt. No. 52 (Hilite Claim Constr. Br. at 7–11)). Hilite argues that the Court should have specified that the limitation of “without the use of an external power source”

was only required for a single phase shift, which was allegedly agreed to by the parties.<sup>6</sup> *Id.* Furthermore, Hilite argues that Dr. Hullender repeatedly referred to the absence of a “direct transfer” in his invalidity testimony about the relevant prior art references; however, on redirect, Hullender agreed that his “use of the term ‘direct transfer’” was “consistent, in [his] opinion, with the wording the Court has put out and construed the hydraulic means to be . . . ,” and “oppositely acting first and second hydraulic means for varying the position of the camshaft,” as recited in the claims of the ’017 Patent, and similar terms in the ’506 and ’254 Patents, do not require direct transfer, but instead requires only that a “volume change in only hydraulic means results in an opposite change in the other hydraulic means.” *Id.* at 33 (citing Dkt. No. 132-1, Ex. A (Final Claim Constr. Order at 2)). Thus, according to Hilite, “oppositely acting first and second hydraulic means” only requires that one chamber react oppositely to the other chamber, i.e., when one chamber fills with fluid, the other chamber drains, irrespective of whether the fluid is supplied by an external pump or a direct transfer using torque reversals alone. *Id.* Finally, Hilite asks the Court to reconsider its ruling that “[r]eaction to a torque reversal does not require a reaction to both a forward and a reverse pulse.” *Id.* at 26.

Melchior responds that Hilite fails to address any of the relevant factors or bases for a judgment to be set aside under Rule 60(b), which governs when a motion to reconsider is filed after the 28 days allotted for a motion under Rule 59(e). Dkt. No. 284 at 24 (citing *Sheperd v. Int’l Paper Co.*, 372 F.3d 326, 328 n.1 (5th Cir. 2004); *Harcon Barge Co., Inc. v. D & G Boat Rentals, Inc.*, 784 F.2d 665, 669 (5th Cir. 1986)). Melchior also argues that Hilite in effect seeks a new trial under an altered claim construction, which is an untimely request. Melchior argues

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<sup>6</sup> Melchior agreed at the claim construction hearing that there is a “moment in time when the external pump is operating” when no infringement occurs, but that “moment in time” is “in the midst of infringement of the Melchior patent.” Def. App. 3 (Dec. 19, 2012 Claim Constr. Hr’g Tr. at 39:6-14). As the Court explained, and counsel for Melchior agreed, “the fact that in a sequence of ten events, one of them does not infringe doesn’t mean there is not infringement because the one is in the midst of ten.” *Id.*

that the Court's not construing the limitation "without the use of an external power source" is immaterial, because the parties entered a stipulation that was read to the jury that incorporated the concept. Dkt. No. 284 at 24 (citing Pl. App. 3-4 (Feb. 17, 2015 Trial Tr. at 85:6-10, 89:7-17)). Regarding Hilite's "direct transfer" argument, Melchior responds that the "hydraulic means" term is a means-plus-function element subject to the Court's determination of structure, which the Court identified as "a pair of chambers 13, 14" and "the passageway of one circuit (18 or 19)," *i.e.*, direct connections between the two chambers that result in a direct transfer from one chamber to another. Dkt. No. 284 at 25 (citing PX 2, '017 Patent, Fig. 3). Melchior notes that the Court's explanation of its construction of "hydraulic means" acknowledged this when it stated "a phase shift occurs when there is a direct transfer of hydraulic fluid from one chamber to another." Dkt. No. 284 at 25 (citing Dkt. No. 132-1 at 2-3).

Although the Federal Rules of Civil Procedure do not formally provide for a motion for reconsideration, it has been recognized that a party may move for reconsideration of an order under Federal Rules of Civil Procedure 54(b), 59(e), or 60(b). *Lightfoot v. Hartford Fire Ins. Co.*, No. 07-4833, 2012 WL 711842, at \*2 (E.D. La. Mar. 5, 2012). Rule 54(b) states that "any order or other decision, however designated, that adjudicates fewer than all the claims or the rights and liabilities of fewer than all the parties does not end the action as to any of the claims or parties and may be revised at any time before the entry of a judgment adjudicating all the claims and all the parties' rights and liabilities." Fed. R. Civ. P. 54(b). Further, the Court "possesses the inherent procedural power to reconsider, rescind, or modify an interlocutory order for cause seen by it to be sufficient." *Melancon v. Texaco, Inc.*, 659 F.2d 551, 553 (5th Cir. 1981). As the Supreme Court has stated, "every order short of a final decree is subject to reopening at the discretion of the district judge." *Moses H. Cone Mem'l Hosp. v. Mercury Const. Corp.*, 460 U.S. 1, 12 (1983). However, it is only appropriate to do so to "correct a manifest error of law or fact

or when a party presents newly discovered evidence.” *Admiral Ins. Co. v. Petron Energy, Inc.*, 1 F. Supp. 3d 501, 503 (N.D. Tex. 2014) (Lynn, J.) (citation omitted).

The Court finds that any prejudice that may have resulted from the Court’s omission of “without the use of an external power source” was cured by the stipulation read to the jury at the start of trial. *See* Pl. App. 3–4 (Feb. 17, 2015 Trial Tr. at 89:13-17) (“The parties stipulate that there is no infringement at any moment in time during which the pump is supplying oil to the phaser chambers via the P check valve, even when assisted by oil recirculated via the B1 check valve.”). The stipulation adequately instructed the jury that there is no infringement when the external pump is filling the chambers of the phaser during a phase change. Furthermore, none of Hilite’s remaining claim construction arguments persuade the Court that it has made a manifest error of law in construing the disputed terms of the Melchior patents. Accordingly, Hilite’s Motion for Reconsideration is **DENIED**.

#### **IV. Plaintiff’s Motion for Judgment as a Matter of Law**

Because the Court is entering judgment on the jury’s verdict, and Plaintiff’s Motion for Judgment as a Matter of Law is conditioned on the Court not entering judgment on the verdict, and for the reasons already stated with respect to Hilite’s Motion for Judgment as a Matter of Law, in addition to those reasons stated on the record at trial, Plaintiff’s Renewed Motion for Judgment as a Matter of Law is **DENIED as moot**.

#### **V. Plaintiff’s Motion for Entry of Judgment on the Verdict**

Pursuant to Federal Rule of Civil Procedure 58(d), Plaintiff moves for entry of judgment on the verdict. The Motion is **GRANTED**. The Court will enter a judgment consistent with the jury’s factual findings and award damages to Melchior in the amount of \$16,779,864, plus the prejudgment and postjudgment interest awarded pursuant to this Order.

## **VI. Plaintiff's Motion for Award of Prejudgment and Postjudgment Interest**

Plaintiff moves for an award of prejudgment interest under 35 U.S.C. § 284 and postjudgment interest under 28 U.S.C. §1961(a). Because the Court finds that the statutory rate for postjudgment interest is proper, and Hilite has presented no argument to the contrary, the Court will discuss only prejudgment interest.

Under 35 U.S.C. § 284, “the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.” 35 U.S.C. § 284. “The rate of prejudgment interest and whether it should be compounded or un-compounded are matters left largely to the discretion of the district court.” *Allen Archery, Inc. v. Browning Mfg. Co.*, 898 F.2d 787, 791 (Fed. Cir. 1990) (quoting *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 807 F.2d 964, 969 (Fed.Cir.1986)). However, “prejudgment interest should ordinarily be awarded” at a rate “necessary to ensure that the patent owner is placed in as good a position as he would have been in had the infringer entered into a reasonable royalty agreement.” *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655 (1983) (citations omitted). Furthermore, “[a]n award of interest from the time that the royalty payments would have been received merely serves to make the patent owner whole, since his damages consist not only of the value of the royalty payments but also of the foregone use of the money between the time of infringement and the date of the judgment.” *Id.* at 655–56. Prejudgment interest serves only compensatory purposes, and is not punitive. *Oiness v. Walgreen Co.*, 88 F.3d 1025, 1033 (Fed. Cir. 1996)

“Generally, prejudgment interest should be awarded from the date of infringement to the date of judgment.” *Nickson Indus., Inc. v. Rol Mfg. Co.*, 847 F.2d 795, 800 (Fed. Cir. 1988) (citing *Devex*, 461 U.S. at 656). However, should the Court withhold an award of prejudgment interest, it must provide some justification for doing so that bears some relationship to the award

of prejudgment interest. *Radio Steel & Mfg. Co. v. MTD Products, Inc.*, 788 F.2d 1554, 1558 (Fed. Cir. 1986) (citing *Devex*, 461 U.S. at 655).

Melchior moves for an award of prejudgment interest based on (1) a time period from 2009 to the date of judgment for sales of infringing units to Chrysler, and from 2011 to the date of judgment for sales of infringing units to GM; (2) the amount he would have received for each year of sales in a royalty arrangement similar to the Borg Warner license, with interest calculated by applying the interest rate to each lump sum payment made at the end of the year in which sales took place; (3) and the Texas statutory interest rate of 5%, compounded quarterly.

In response Hilite argues (1) Melchior is not entitled to prejudgment interest after the expiration of the patents-in-suit; (2) the U.S. Treasury Rate is an appropriate prejudgment interest rate, or alternatively, the prime rate of 3.25%; and (3) interest should be awarded on a simple, rather than compound, basis.

The Court disagrees with Hilite, and finds that an award of prejudgment interest is appropriate even after the expiration of the patents-in-suit. The award of prejudgment interest compensates a patent holder for “foregone use of the money between the time of infringement and the date of the judgment.” *Devex*, 461 U.S. at 655–56. Hilite relies on *Group One, Ltd. v. Hallmark Cards, Inc.* to argue that this Court may deny prejudgment interest after the patents-in-suit have expired. Dkt. No. 289 at 5 (citing *Grp. One, Ltd. v. Hallmark Cards, Inc.*, 407 F.3d 1297, 1307 (Fed. Cir. 2005)). However, in that case, the Federal Circuit held that the district court did not abuse its discretion by denying prejudgment interest for the period of time during which the patent expired for failure to pay maintenance fees. *Hallmark Cards*, 407 F.3d at 1308. There, the plaintiff waited until ten days after the jury verdict, and nearly seven months after the patent’s expiration, to file a petition to reinstate the patent. *Id.* Thus, the court concluded that, because Group One could not have initiated a patent infringement suit during that seven-month period, the district court did not abuse its discretion by denying prejudgment interest for those

seven months. *Id.* Here, in contrast, there is no allegation that Melchior failed to pay maintenance fees on the patents-in-suit and could not have brought his suit for infringement after July 2014. Moreover, Hilite does not explain how an award of prejudgment interest after July 2014 is inappropriate, given that the purpose of prejudgment interest is to compensate the patent owner for the use of his money during the time period between the date of infringement and the date of judgment. *See Oiness*, 88 F.3d at 1033. Had Melchior received royalties from GM and Chrysler during the period of infringement, he would have been able to use that money after the expiration of the patents-in-suit. Thus, the Court will not exercise its discretion to deny an award of prejudgment interest from July 2014 until the date of judgment.<sup>7</sup>

The Court will award prejudgment interest at the U.S. Treasury Rate, which the Court finds adequate to compensate Melchior for his lost use of royalties. Although Melchior emphasizes this case's connections with Texas, where Hilite manufactured and sold infringing products, he has not offered any evidence that he borrowed during the period of infringement at a higher rate than the relevant U.S. Treasury Rate. *See Laitram Corp. v. NEC Corp.*, 115 F.3d 947, 955 (Fed. Cir. 1997) (finding no abuse of discretion in using U.S Treasury bill rate where there was no evidence that the plaintiff borrowed money at a higher rate, what that rate was, or any causal connection between borrowing and the loss of the use of money awarded for infringement).

Finally, the Court will award prejudgment interest on a simple basis. Melchior contends that courts typically compound interest to reflect "the patentee's ability to utilize the money that

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<sup>7</sup> The Supreme Court's recent decision in *Kimble v. Marvel Entertainment, LLC*, 56 U.S. \_\_\_\_ (2015) does not change the Court's analysis. In *Kimble*, the Supreme Court declined to overrule its long-standing decision in *Brulotte v. Thys Co.*, 379 U.S. 29 (1964), which prohibited patentees from charging royalties for an invention after its patent term has expired. Of course, *Kimble* addressed a separate question from whether a prevailing party should be awarded prejudgment interest "for foregone use of the money between the time of infringement and the date of the judgment," which may only incidentally include a time period after the patent term has expired. *Devex*, 461 U.S. at 655–56.

should have been in his possession.” Dkt. No. 270 at 6. However, there is no rule that interest always be compounded. *Gyromat Corp. v. Champion Spark Plug Co.*, 735 F.2d 549, 557 (Fed. Cir. 1984) (finding no abuse of discretion where district court calculated interest on the basis of the simple rate, not compounded). Melchior has presented no argument or evidence on the subject, other than his assertion that interest is typically compounded. Even if that were so, this Court finds that calculating interest on a simple basis, along with using the U.S. Treasury rate over the entire infringing period, will adequately compensate Melchior for his inability to utilize the monies awarded as damages. The Court will award postjudgment interest pursuant to 28 U.S.C. § 1961.

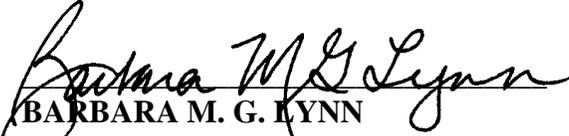
## VII. Conclusion

For the reasons discussed, Defendant’s Motion for Judgment as a Matter of Law Under Rule 50(b), Alternative Motion for a New Trial or Remittitur Under Rule 59(a)(1), and Motion for Reconsideration of the Court’s Claim Construction Rulings are **DENIED**, Plaintiff’s Renewed Motion for Judgment as a Matter of Law is **DENIED as moot**, Plaintiff’s Motion for Entry of Judgment on the Verdict is **GRANTED**, and Plaintiff’s Motion for Award of Pre-Judgment and Post-Judgment Interest is **GRANTED** in part. Defendant’s Request for Oral Argument is **DENIED**.

Plaintiff is **ORDERED** to prepare and present a proposed judgment to the Court within fourteen days of the date of this Order that reflects the foregoing prejudgment interest findings. Defendant may respond with any objections to Plaintiff’s calculations of prejudgment interest within ten days of the date Plaintiff presents his proposed judgment.

**SO ORDERED.**

July 15, 2015.

  
BARBARA M. G. LYNN  
UNITED STATES DISTRICT JUDGE  
NORTHERN DISTRICT OF TEXAS